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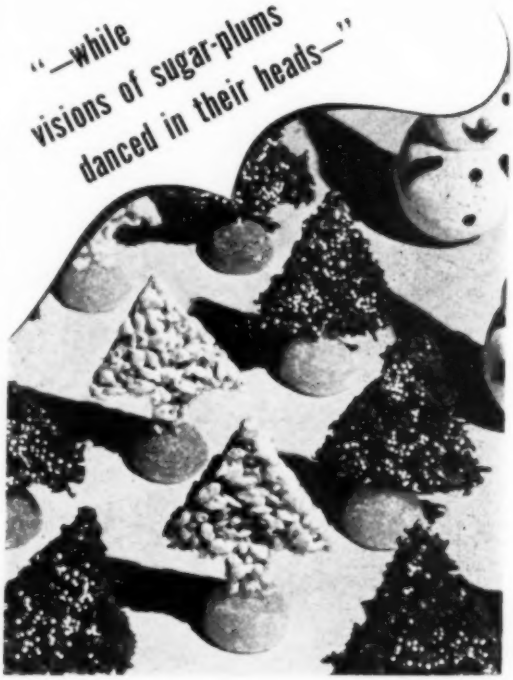

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Vol. 33, No. 10 DECEMBER 1941

Journal of Home Economics

INFLATION STRIKES HOME

HARRIET ELLIOTT

COMPARING the social evils that result from an unchecked inflation is difficult, but certainly one of the most regrettable results lies in the complete destruction of any economic basis for home planning. Homes are built to the long-term view, and when family resources can be cut in half overnight, not only immediate income and security are threatened, but sound habits of planning are uprooted.

The social disaster of inflation can leave its deforming mark on our social life for generations. The immediate loss of income and lowered standards of living, followed eventually by depression and unemployment, nourish carelessness, wastefulness, planlessness, and cynicism—social attitudes which outlive their original cause. I can think of no single social threat so destructive to the work of the home economist as that which now faces us in the threat, the fact, of inflation. And make no mistake about it, inflation is no longer a potential evil; it is an economic disease that has already infected our nation.

What is the precise nature of this disease?

There is no longer need, or time, to quibble over definitions or make fine distinctions between this or that type of inflation. For our purposes, we can define inflation as *a rapid and general rise in prices—a rise that is not accompanied by as great an increase in the production of consumer goods.*

We must keep clear in our minds the distinction between simply rising prices and inflation. Rising prices mean, to most of us, prosperous times. People buy more. Jobs are plentiful. Everybody is happy. The farmer gets more for his crops and buys more from the city. The retailer sells more goods, and more customers come in. The higher prices to consumers are more than offset by salary increases and a job for sons and daughters. Manufacturers turn out more and more goods because they believe there will be a bigger and bigger market for them.

That is what moderately rising prices mean. But that is not inflation.

One of the confusing things about inflation, however, is that in its early stages, while prices are rising but not yet soaring, these rising prices give the illusion of good times, and nobody wants to interfere with them. We have been living in such an illusion this past year.

But why? Why have these rising prices meant inflation, not prosperity?

The answer lies in this: During the past year we, as a nation, spent seven billion dollars for military defense—seven billion dollars building something that we can't eat, wear, or live in. By this time next year we should be spending more than two billions a month for defense.

Let me put it another way. Let's say that out of every eight hours of productive

work, one hour is now spent making things we can't buy or use in civilian life—things like tanks, planes, soldiers' uniforms, ships, submarines, and guns. By next spring we'll be spending at least two out of our eight hours on military production. But all who work will get eight hours of pay. And with eight hours' wages we will go to market to buy six hours' production. In other words, eight hours of pay will be bidding for six hours of production. Under such circumstances prices are bid up. But the higher prices don't entice manufacturers to put more goods on the market, for the simple reason that the total economy is spending all the time and energy it can spare building military defense. Rather than more goods, we may be faced with less. Once inflation is really under way, we are certain to find less goods on our market because speculators, hoarders, and profiteers will buy up all the available goods, store them away in warehouses, and hold them to be sold for double and treble their original cost. That's how war millionaires are made; or, to put it more accurately, that's how inflation millionaires are made.

For all but the few who find in inflation an opportunity to prey upon the rest of us, however, inflation means a drastic loss of income.

Our cost of living more than doubled during the inflation that accompanied our military expenditures in the last war. And, as Leon Henderson, administrator of the Office of Price Administration, expressed it, we are seeing now a deadly parallel between the price behavior today and that of the early years of the last European war.

The first World War in Europe began in July 1914. Today's great struggle started in August 1939. By comparing what happened to prices in the first two years of the last war with what has happened between August 1939 and August 1941, we can get a very nearly accurate picture of the two periods. Let me give you a few of the facts. Keep in mind that these figures I shall be quoting are relative to wholesale (not retail) prices.

In the first two years of the first World War food prices went up 18.4 per cent.

In the first two years of this war food prices have gone up 29 per cent.

Farm products went up 12.6 per cent in the first two years of the last war.

This time they have gone up 43.1 per cent.

Textile prices went up 43.6 per cent in that period during the last war.

This time they have gone up 28.6 per cent.

Building materials went up during the first two years of the first World War 27.2 per cent.

This time they have gone up 16.7 per cent.

The full impact of these price increases hasn't yet reached the average individual. It takes time for goods to pass through the channels of trade. But these increases will reach retail markets soon now and nothing can be done to prevent the cost of living rising in the next few months, for the retailer who has paid these higher wholesale prices cannot sell at his old prices and stay in business.

But these higher prices in the next few months are but a mild, bland taste of what's ahead unless something is done. Each day's delay adds upward figures to what you and I will have to pay for goods and services next year.

During the first year of the defense effort, the Consumer Division of the Office of Price Administration was able to get, from patriotic businessmen, enough effective co-operation to keep prices from soaring ahead immediately; but as defense expenditures have mounted and scarcities have shown up all down the line, voluntary co-operation was no longer able to stem the tide. The consumers of this country are now face to face with an inflation raid on their incomes,

a raid that may cut their earnings in half unless it is checked.

There is a hopeful side to this picture. The hope lies in the fact that *inflation can be controlled*. It is not necessary that we face the bitter experience and dire aftermath that unchecked inflation means. Prices don't go up. Somebody puts them up—sometimes for justifiable reasons, sometimes for unjustifiable reasons. Prices are not, like the tides of the ocean, controlled by some mysterious, economic moon. They are controlled by men acting in their own interests and often acting without knowledge of the consequences of their price quotations. In normal times—except where monopoly power intervenes—competitive action in the market place pits one price namer against another and forces both to hew to a conservative price. But today as Bernard Baruch, head of the War Industries Board in the last World War, put it: "Under conditions of war production there is no such thing as a competitive price. There is more business than the producers in the nation can possibly handle."

And so it is necessary to substitute in a war production economy a control to replace the competitive control that war production, by its very nature, destroys. In a democracy, that control must be exercised by the government on behalf of the welfare of the nation as a whole. Price control is not an additional or new element in our economy. It is a necessary substitute for the active competition that has been temporarily lost. Price control is not regimentation. It is protection against the regimentation of the many into poverty by the few, by the hoarders, speculators, and profiteers, who become war millionaires in the process.

For those whose interest is in bringing to home management the best results of modern science, inflation holds another threat, secondary only to its raid on incomes through higher prices. In a study of the effects of inflation in the last war, prepared for Congress by the staff of the Office of Price Administration, there appear the following paragraphs:

> When prices go up, manufacturers, fabricators, and merchandisers naturally seek to avoid consumers' resistance to higher prices. To an important extent this is accomplished by smaller packages, reduction of quality, reduction of services, special offers, and so forth. . . . It is practically impossible to take account of these changes in quality in price reporting. There is no doubt that the quality of many commodities was lower in the war years and that their real price was correspondingly higher than is indicated by available price statistics.
>
> As early as the fall of 1917, clothiers sacrificed quality to maintain price lines. They refused to buy the finer grade fabrics that were still available and substituted cheaper materials in men's suits and overcoats. Civilian men's clothing classed as heavyweight material weighed less than 14 ounces compared with the normal weight of 28 to 32 ounces. . . . According to a War Industries Board Bulletin, rug manufacturers substituted cheaper materials and manufactured rugs and carpets with less compact construction.
>
> In order to protect consumers of bread, regulations were necessary requiring bread to be sold by weight rather than by loaf and to standardize the formula for bread ingredients. . . .

That's a small indication of what happened during our last war-production inflation.

What about today? Are we now following in quality reduction the same deadly parallel we are following in price rises?

There has come across my desk these past months a flood of evidence indicating that we are. Business and financial papers are reporting that manufacturers are cutting the quality of their goods in many lines. These changes in quality—changes which constitute hidden price increases—are reported for a wide variety of products: women's dresses, handbags, carpets and

rugs, comfortables, blankets, washing machines, men's suits, sweaters, hats, hosiery, sheets, work clothes, shirts, shoes, underwear, coats, lingerie, towels, dress materials, swimming suits, down quilts, bedspreads, and furniture.

These quality cuts are, in reality, price increases which will dip deep into standards of living no less surely because they are hidden.

There are many tricks in this hidden-price game. Inflation will call them all into play. There'll be more rayon in our rugs and blankets, more rayon in our suits and coats, heavier linings and lighter tops in our overcoats, cheaper dyes in our dresses, fewer tufts in our bedspreads, less mohair in our sofas, puffier stitches in our sweaters, sleazier fabrics in our sheets—and it will all add up to a good slice out of our income because these things won't wear as long as we had counted on.

These quality depreciations have yet another significance today. They tend to rob the defense program because they constitute a needless drain on the whole economic machinery. The shirt that splits and shrinks has used labor, management, cotton, weaving looms, sewing machines, railroads, and ships—all economic resources that are needed for defense building. Its pearl buttons, and the tapioca that was used to make its finish, had to be imported on crowded ships, ships needed to bring in strategic defense supplies. The looms it was woven on could have been used for military uniforms.

The shirt that shrinks has to be replaced with another, and this second shirt uses all over again the men, machines, ships, and materials that had gone into the making of the first one. And the money that the individual consumer had to spend a second time for a shirt—where did it come from? Perhaps the food budget was robbed and the family's, hence the national, nutritional standard was lowered. Or maybe a trip to the dentist was canceled and a child's health subjected to risk. Or, if the income was not so limited, then the money that would have bought defense stamps was spent to buy a second shirt and the use of our strained economy a second time—the use of that labor, management, cotton, weaving looms, steel, sewing machines, railroad, and ships.

There are, of course, still other disastrous social results inherent in a runaway inflation. The cost of building defense will be doubled and tripled. Taxes will mount higher and higher. National morale will be undermined because inflation sets buyers against sellers, debtors against creditors, labor against management, those of fixed income against those whose incomes rise as prices rise. And Hitler has no better ally than our own shortsightedness, and no fifth-column saboteurs can destroy our productive strength so viciously as the consequences of unchecked inflation.

We need price control. We need it immediately. And only the Congress of the United States can give it to us. It is no exaggeration, I think, to say that price-control legislation is the most urgent immediate need the nation faces.

ARMY FEEDING IS A BIG JOB

MARY I. BARBER

DO YOU remember when you first tried to understand the meaning of "space" and "universe"? As a child you may have had dreams of being whirled in space and have wakened, dizzy and confused, still wondering about this curious something which really was nothing.

The problem of feeding our new Army gives much this same feeling of immensity but accompanied by the assurance that a clear, understandable plan is back of it all—a plan which had proved its practicability before the present emergency arose. A few Army officers with training and vision had started a study of nutrition, procurement, inspection, mess management, menu-making, baking, and cooking that made them experts in Army feeding. Today they are putting every bit of their information to use, with the result that our soldiers are receiving meals that are adequate nutritionally, interesting in variety, and within the ration allowance of approximately 46 cents a day.

The intensive thought behind Army feeding is in part based on research findings from the Subsistence Laboratories of the Quartermaster Corps in Chicago and from laboratories of several universities. For years a study of the keeping qualities of foodstuffs and causes of spoilage in temperate and tropical zones has been carried on; today study of effects of Arctic conditions must be included (*1*).

An article published in the *Quartermaster Review* for September–October 1941 outlines the requirements for a "Blitz" ration and describes how testing for adequacy has been made by the Laboratory of Physiological Hygiene, University of Minnesota (*2*).

Two types of special rations, called C and D, have been adopted by the Quartermaster Corps. Ration C is composed of six cans of food, three of which contain the main part of a meal—meat and beans, meat and vegetable stew, meat and vegetable hash, respectively. The other three contain biscuits, soluble coffee, sugar and candy. The set of six cans makes up the three meals for one day for one man. This ration is used when field kitchens are not available. Tests have shown these meals to be nutritionally balanced, palatable, and nonperishable.

Ration D is a chocolate bar for emergency use. It weighs four ounces, yields 600 calories. It is made from chocolate, sugar, skim-milk powder, cocoa butter, oat flour (to prevent melting in hot climates), artificial vanilla, and 150 International Units of thiamin. The wrapped bar measures four by two inches so that several can be carried in the pockets of a uniform.

A centralized system of food procurement is in effect during this emergency. Perishable products are purchased through marketing centers located close to the large Army posts. Specialists co-operate with quartermasters. The result is a steady flow to the Army of such foods as fruits, vegetables, and eggs—a flow which is controlled so as to cause no shortage to the civilian population. Supplies are carefully inspected, according to methods described in the Army manual "Inspection of Subsistence Supplies" (*3*).

Although special rations are important in the whole plan for Army feeding, the

everyday meals are at present even more important. It is a big job to try to satisfy more than a million and a half young men who have entered the Army from every walk of life. The boy accustomed to a silver spoon sits next to the one accustomed to tin. The boy who has taken milk, butter, fresh fruits, and vegetables as a matter of course eats at the table with the boy who may have lived on fat back, soda biscuits, and turnip greens. Our job is to modify food habits and to condition men to meals which are not geographical in character and which provide all the essentials for buoyant health.

Daily requirements for 100 men

FOOD	UNIT	BREAKFAST	DINNER	SUPPER	TOTAL
Bread	lb.	15	15	15	45
Butter	"	3	3	3	9
Coffee, R & G	"	4	4	4	12
Milk, fresh	½ pt.	100			100
Milk, evaporated	#1 can	7	7	7	21
Sugar, granulated	lb.	7	7	7	21
Bananas, fresh	"	45			45
Assorted dry cereal	ea.	75			75
Eggs, fresh	doz.	13	2	1	16
Potatoes, Irish	lb.	45			45
Jam	#2 can	5		5	10
Tomatoes	#10 "		1		1
Pork (Boston butts)	lb.		55	20	75
Applesauce	#10 can		2		2
Potatoes, sweet	lb.		45		45
Beets, fresh	"		25		25
Cabbage	"		5		5
Carrots, fresh	"		5		5
Celery	"		5	5	10
Mayonnaise	1 qt.		1		1
Pumpkin	#2½ can		7		7
Peas	#2 "			2	2
Noodles	lb.			6	6
Spinach, fresh (or other greens)	"			25	25
Flour	"		6	8	14
Shortening	"		3	2	5
Onions, fresh	"			3	3
Cookies, commercial	"			10	10
Pimento	#½ can			2	2
Yeast	lb.			½	½
Sugar, brown	"		6		6

The month's menu with a list of components and amounts needed each day for 100 men is sent to the Subsistence Branch of the Quartermaster Corps well in advance of the date on which it is to be used. Specialists study it carefully and may comment. Menus are checked for amounts, variety, inclusion of fresh and canned fruits and vegetables, milk, meat, cereals, eggs. Calculations are made for calories, protein, minerals, and vitamins.

A measuring stick for checking the Army mess has been set up, adopted from the one published by the National Committee on Foods and Nutrition. Each set of menus is compared with these standards. If the score is above the standard, so much the better. If it falls below, steps are taken for its improvement.

Here is a menu for one day with requirements for 100 men set up in the form generally used by the Army, except for omission of columns for unit cost and total cost. The calculation of this menu would be an interesting project for a nutrition class, although analysis of menus for an entire month would be necessary to determine fairly the adequacy of Army diets.

Breakfast

Bananas
Assorted dry cereals
Fresh milk
Plain omelet
Fried potatoes
Bread and butter
Jam
Coffee

Dinner

Tomato soup
Croutons
Roast Boston butts (fresh)
Applesauce
Candied sweet potatoes
Harvard beets
Raw vegetable salad with mayonnaise
Bread and butter
Pumpkin pie
Coffee

Supper

Pork à la king on toast
Buttered noodles
Steamed greens with egg
Parkerhouse rolls and butter
Jam
Cookies
Coffee

Multiply the amounts indicated for 100 men by 15,520 and you will see how huge are the quantities which must be purchased, cooked, and served to the whole Army.

It is one problem to provide an adequate menu, another to see that it is well cooked, and yet another to get it off the table into the man. Each corps area in normal times has a bakers' and cooks' school. In addition to the parent school, several subschools are functioning at present to give men at least two months of training in mess management and cooking (*4*, *5*). Naturally there has been a shortage of bakers and cooks due to the rapid increase in the size of the Army, but this condition is being corrected as rapidly as possible. An earnest effort is being made to reduce to a minimum the nutritive losses between the truck gardener and the mess-hall table.

Army feeding *is* a big job and it is being carried out under the skilled leadership of expert subsistence officers.

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1. Technical Manual No. 10–250. Storage and Issue.
2. Rations for Air Borne and Other Mobile Troops. *The Quartermaster Review*, Vol. 21, No. 2.
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4. Training Manual, T. M. No. 10–405. The Army Cook.
5. Training Manual, T. M. No. 10–410. The Army Baker.

A REVIEW OF METAL UTENSILS FOR SURFACE COOKING[1]

ARNOLD E. BARAGAR

SINCE a restriction has been placed on aluminum for use in household utensils, there is need for information as to other types of metal cooking ware, enamelware, stainless steel, chrome ware, and cast iron. However, a discussion of pans would be incomplete if aluminum were not included; for if we are to make a substitution for aluminum, we must also know the characteristics of utensils of that metal.

From data recently gathered during investigations of electric, gas, and gasoline ranges at the Nebraska Agricultural Experiment Station and from still newer data obtained on aluminum, enamelware, stainless-steel, and chrome-ware saucepans, some conclusions about utensils may be drawn. Some facts were also gathered about skillets of cast aluminum, cast iron, chromium-plated copper, and chromium-plated steel.

In judging a pan there are five factors to consider: durability, sanitation, ease of handling, performance, and price. Let us consider each of these in turn.

Durability. By durability we mean how well the pan will retain its shape, how long it will last, and how well the material will resist scratching, pitting, warping, chipping, checking, and the action of water, acid, and alkali.

The ability of a pan to retain its shape will depend on the thickness and kind of material. For an aluminum pan the thickness should be approximately 0.1 inch (10 gauge B-S) in order to be absolutely rigid. An aluminum pan of approximately 0.05 inch thickness (16 gauge) has been used in our laboratory for ten years and is still in excellent condition. It must be pointed out, however, that this pan has been used carefully. With hard usage it could easily have been deformed.

Stainless-steel pans having a metal thickness of approximately 0.025 inch (22 gauge) appear to be comparable with the 10-gauge aluminum pan for strength in holding their shapes. Two grades of 3-quart enamel pans were tested, one having a weight of about $2\frac{1}{2}$ pounds and an average wall thickness of 0.073 inch and the other having a weight of $1\frac{1}{2}$ pounds and an average wall thickness of 0.053 inch. In our laboratory the lighter-weight enamel pan has retained its form.

Pitting, warping, checking, and chipping all seriously affect the life of the pan. Aluminum utensils can be warped, scratched, and pitted. The pitting can occur by the chemical action of ordinary cooking water. On the other hand, while enamelware is not subject to pitting it does eventually check, and unless handled with reasonable care it will chip. However, even though checking does occur, the life of the pan is not impaired as long as the check does not progress to the point where the enamel flakes off, leaving the steel exposed.

One of the questions that might be asked of enamelware is how well will it withstand temperatures for caramelizing sugar and for deep-fat frying? From laboratory

[1] The information in this article is based on data secured from a series of technical stove and utensil tests performed in the Household Equipment Research Laboratory, Agricultural Experiment Station, University of Nebraska, Lincoln, Nebraska. Printed with the approval of the director as [Nebraska] Journal Series No. 296.

and actual cooking tests in new enamel pans we concluded that for ordinary cooking practices the enamel pans compare favorably in durability with other metal pans. Another indication that the present-day enameling is well done was the lack of chipping on the cover when holes were drilled for the insertion of a thermometer. Hence it appears that enamelware will stand considerable abuse and that if handled with ordinary care so as not to produce chipping by hard knocks it will have a life comparable to that of aluminum.

Chrome ware has the disadvantage that the chromium plate comes off. This has been observed in our experiments with two pans used only for cooking and never scoured with an abrasive cleaner. Of course, once steel is exposed, rusting is likely to occur.

With respect to these faults the stainless-steel pans show to advantage because they are resistant to pitting and of course have nothing to chip or check. Cast-iron utensils (mostly skillets and Dutch-oven roasters) will have a long life unless they should accidentally be heated to an excessively high temperature, in which case they may crack.

Sanitation. All pans should be easy to clean and easy to keep clean. They should be constructed with no open seams where dirt and grease can collect. This fault occurs usually with rolled rims, at the junction of the handle with the pan, and sometimes with the handle itself. Also it is desirable to have a pan that does not need to be cleaned with special care. While abrasive cleaners should not be used on polished metal utensils, we must recognize the fact that actually such cleaners are used in the home. On aluminum, enamelware, and stainless-steel pans such treatment spoils the luster, but for chromium-plated pans it is further injurious by causing the chromium to come off.

Ease of handling. Often too little attention is given to the ease of handling a pan. A heavy pan may be very durable; but where a choice between a heavy and a light pan is possible, the lighter pan is usually taken out of the cupboard. Not only the weight in relation to capacity should be considered but balance in handling is important. Further, the handle should be so constructed that it will remain cool. Removable handles should fit into a notch or key when fastened by a bolt running down the center of the handle, so that the handle will not revolve in the hand.

Performance. Performance is the most important factor of all, because primarily the pan is used as a container for cooking food. Durability, sanitation, and ease of handling may be judged from the utensil itself; but as soon as we include cooking we must introduce a related factor, namely, the stove. To accomplish a useful result, heat must be transferred to the pan and contents. There are three methods of transferring heat from one place to another—radiation, conduction, and convection. With the electric unit most of the heat is transferred by radiation. With a stove using a fuel that is burned as a gas, most of the heat energy is transferred by convection. With the wood and coal range, conduction is the principal method when the pan is placed directly upon the metal surface; but when the stove lid is removed and the pan is placed directly over the fire, the transfer is by convection and radiation.

Now let us see what characteristics a pan should have to utilize the most heat under these different methods of heat transfer. First, the pan should have a bottom that is a good absorber of radiant energy to utilize the greatest transfer by radiation; second, the bottom should be flat so that good metal-to-metal contact can be made between the pan and the metal unit or stove surface to utilize the greatest transfer by conduction; third, for gaseous fuels the bottom should be rather large in diameter

in order to utilize the greatest transfer by convection; fourth, the heat losses through side wall and cover should be kept small, because not only do we want to get the heat into the pan and contents but we want to keep it there; and fifth, the cover should fit the pan tightly to prevent undue evaporation loss.

How do the various metals fit these requirements? Enamelware has a high coefficient of absorption and consequently it fits the first requirement very well. Most aluminum pans will also fulfill the first requirement because their bottoms are conditioned to be good absorbers of radiant energy. Anodized aluminum has an absorption coefficient near that of enamelware. While no definite figures on the emissivity of stainless steel could be found, its probable value is somewhat less than that for enamelware, if we judge from a value found for a similar iron alloy. Also the bottoms of stainless-steel pans have a dull finish, and this helps the absorption of radiant energy. Some stainless-steel pans have apparently been improved by copper plating on the exterior of the bottom; in our tests a pan of this kind gave about 10 per cent greater efficiency on the electric stove than did the all-stainless-steel pan; but, as will be mentioned later, part of this increase was due to another factor. With respect to the first requirement (absorption of radiant energy), the chrome-ware pan is probably similar to the stainless-steel, although the bottom of the experimental utensil had a high polish and consequently we would expect its absorption coefficient to be less.

In cases where heat is transferred by conduction it is essential that the pan have a flat bottom, one that will make all possible metal-to-metal contact. Few metal utensils fulfill this requirement. Of the pans studied, 78 per cent had bottoms that were concave upward, varying from a slight curve to as much as 3 millimeters. Of course, on a gas stove such a condition does not influence the efficiency of the utensil, but on an electric stove the metal-to-metal contact is more important than one might believe. It is quite true that the present tubular electric units begin to glow red in from 3 to 4 minutes and that after this time the transfer is by radiation. Nevertheless, pans having flat bottoms were from 7 to 8 per cent more efficient than pans that were only slightly concave upward, showing the importance of those first 3 or 4 minutes. In the set of utensils that we studied the only ones that made good metal-to-metal contact were a heavy cast-aluminum 4-quart saucepan, a copper-bottom stainless-steel 3-quart pan, and a chromium-plated-steel $2\frac{1}{4}$-quart (chrome-ware) pan. On the electric unit these pans had efficiencies of 74.1, 70.0, and 68.8 per cent, respectively, while the next best pan was of lighter-weight aluminum with a bottom slightly concave upward and having an efficiency of 66.8 per cent. Similarly, the 3-quart all-stainless-steel pan had an efficiency of 60.6 per cent in comparison to the 70.0 per cent for the copper-bottom pan. That the difference in efficiency between these two aluminum pans and the stainless-steel pans was due to the good metal-to-metal contact of the one aluminum pan and the copper-bottom stainless-steel pan was definitely shown by the temperature-time curves plotted for the first six minutes of heating.

At this point it might be well to point out that while it is desirable to have utensils with flat bottoms to use on electric units, it is not absolutely essential, since during the major part of the heating period the transfer is by radiation. In other words, electric stoves do not need special utensils for successful operation.

The third requirement—that for satisfactory performance with gaseous fuels the bottom of the pan should be rather large—can be fulfilled in any of the metals because pans of this type are on the market. Tests

with the two stainless-steel pans demonstrated the importance of relatively large bottoms for a gas burner: the all-stainless-steel pan, with 25 per cent more scrubbing area than the copper-bottom pan, had an efficiency of 47.0 per cent; the copper-bottom pan, 44.7 per cent. It is also interesting to note that the cast-aluminum pan previously mentioned as having the highest efficiency on the electric unit was also the most efficient on the gas burner. The reason is again apparent; it had the largest bottom area in relation to capacity of any of the pans tested.

Heat losses through side walls and cover are of two kinds: the convection loss (a function of the surface area and shape of the pan) and the radiation loss (a function of the material of the pan). For pans of the same size and shape held at the same temperature the convection loss will be the same, but the radiation loss for the enamelware will be greater than that for the aluminum, stainless-steel, and chrome ware under like conditions of temperature; because just as the enamelware is a good absorber of radiant energy, it is likewise a good radiator. To decrease the radiation from the other metal pans, the side walls and covers are given a high polish. Thus, the heat loss for enamelware is greater than that for the other pans of similar size and shape. In fact, an experimental determination has shown the loss for enamelware as compared to that for aluminum to be in the ratio of about 1.8 to 1. The effect of the difference in wall losses is particularly in evidence during the boiling period.

It is difficult to find an enamel pan that has a tightly fitted lid. In selecting enamelware it is best to try several pans and choose the one that has the best-fitting cover. Often the fit between pan and cover can be improved by taking the cover from a similar pan. Usually the covers on aluminum, stainless-steel, and chrome ware fit tightly; that is, there are no uneven places between the cover and pan to act as vents for steam.

In both enamelware and steel pans some foods stick to the bottom, especially where localized heating occurs. Because of the difference in conductivity, aluminum pans have a more uniform heat distribution than do steel pans. This can be easily shown by a simple scorch test with blotting paper. With enamelware and steel pans some foods have to be constantly stirred to prevent scorching. On the other hand, some foods cooked in an aluminum pan show an undesirable color change in the food. When subjected to the test of cooking performance, each kind of pan reveals some undesirable characteristics.

With the skillets no technical test other than a scorch pattern of the heat distribution was performed, but observations were also made during cooking. These two tests showed that the cast-aluminum and chromium-plated copper skillets produced a uniform heat over the bottom on both electric and gas stoves, whereas cast-iron and chrome-ware skillets were characterized by localized heating, which often produces sticking and scorching of food. Heretofore, another disadvantage of the cast-iron skillet has been that it needed conditioning with grease before it could be used, but many of the skillets now on the market are preconditioned and thus ready to use.

Price. Finally we come to a factor of no small importance, the price. From a recent survey of local stores we found that all-stainless-steel pans of a given size were from 150 to 360 per cent higher in price than enamelware; the copper-bottom stainless-steel, from 170 to 420 per cent higher. The chrome-ware pans were about the same price as the lighter-weight enamelware. However, price should not be considered alone but rather in relation to the other factors—durability, sanitation, ease of handling, and performance. Thus, for

persons who do not have to consider high initial price, the copper-bottom stainless-steel would make an excellent substitution for aluminum with the all-stainless-steel pan as next choice; but in general, considering all the factors involved, the enamel pan would be the one to choose.

The black processed cast-iron skillet costs about half as much as the chromeware skillet and slightly less than half as much as the chromium-plated copper skillet. For a light-weight skillet the chromium-plated copper seems desirable except for the possibility that the chromium will come off. As a general all-purpose skillet to replace the cast-aluminum skillet, cast-iron is to be preferred; but the aluminum skillet should be classed ahead of the cast-iron because of its more uniform heat distribution and lighter weight.

Summary. Considering all of the five factors—durability, sanitation, ease of handling, performance, and price—the light-weight enamelware is a satisfactory substitute for aluminum. When price is eliminated from consideration, the best substitute for aluminum would be the copper-bottom stainless-steel pan, and the all-stainless-steel pan would be the next choice. While the cast-iron skillet is heavy to handle, it is best adapted to replace the cast-aluminum skillet as an all-purpose skillet. Except for the possibility of the chromium plating coming off, the chromium-plated copper skillet seems to be desirable as a light-weight skillet.

TRAINING COURSES FOR HOUSEHOLD EMPLOYEES

LEILA DOMAN

LACK of training of the employees in private households has long been recognized as a major obstacle to the betterment of their working conditions and to improving domestic employer-employee relations. Although some technical and privately owned schools have made training for special household services available for many years, there was no broad plan for training for household employment until 1938, when W.P.A. projects were set up which provided for this training not only for women on relief but also for women not on relief if they were registered with the United States Employment Service.[1] As a result of the impetus which the federal projects gave to the movement for training household employees, other plans for this type of training have been worked out and financed by state and municipal funds. Because the family economics division of the American Home Economics Association for a number of years has been following the steps taken by various groups for the purpose of improving domestic employer-employee relationships, a survey of the opportunities for training of household employees in the public schools was begun in 1939 and continued in 1940. The objective was to learn the extent to which such training was available to those enrolled.

The information sought was obtained through the co-operation of the state supervisors of home economics education in 35 states. Of this number, 13 indicated that some opportunities for training were being offered and 15 showed that well-established projects were in operation.[2] In addition to the data on the state plans for this type of training, the supervisors listed specific training centers which were doing outstanding work. To these centers questionnaires were sent to obtain more detailed information as to the teaching personnel, the course of study, and the students enrolled. The 42 reports received represented different sections of the country: northeastern, 5 schools from 3 states; southern, 7 schools from 3 states; midwestern, 5 schools from 4 states; far-western, 25 schools from 7 states. The heavy representation from the western states was due in part to a more complete response to the questionnaires and in part to the relatively greater number of projects established in the West. The reports indicated that there was no set pattern for training. However, the differences were due principally to the source and amount of financial support, the type of student enrolled, and the connections with established educational institutions. The objectives and the conception of the problems to be met were of marked similarity.

The schools represented by the 42 reports were connected with the public school systems, W.P.A. and N.Y.A. projects, and a few special projects developed under the supervision of local or state boards of education. They were classified under 4 rather general groupings based on organization and type of supervision:

[1] See "Household Employment—A Symposium." JOURNAL OF HOME ECONOMICS, Vol. 31 (Feb. 1939), pp. 86–95.

[2] See "Public School Training for Household Employment," LEILA DOMAN. JOURNAL OF HOME ECONOMICS, Vol. 31 (Oct. 1939), pp. 552–553.

1. Fourteen federal homemaking centers, 8 providing for residence instruction and 6 for day instruction only.
2. Fourteen vocational trade schools, including a negro school and 3 agricultural schools.
3. Six regular day schools, including a junior high school, 3 senior high schools, and 2 junior colleges.
4. Eight special adult programs, including 4 operated in co-operation with local boards of education and the Y. W. C. A.

Supervision of the training programs was linked with the source of financial support. The federal homemaking centers were operated and financed under the regulations set up for W.P.A. and N.Y.A. projects. The vocational schools were under the supervision of local authorities, although all except one had federal or state financial support, or both, in addition to local funds. All of the regular day schools were directly under local authorities, but 2 had state supervisors as well, and 4 of the 6 had supplementary financial support from state and federal funds. All of the unclassified adult programs were under local supervisors, although one had federal supervision as well because of an allotment of federal funds for its support. In addition to the financial support received, approximately two-thirds (26) of the schools received help from local groups, such as the Y.W.C.A., women's clubs, and the Red Cross, in the form of special talks and recreation for the students and advisory committees for the supervisors.

The reports indicated that there had been a definite effort to provide the schools with an adequate teaching personnel. In two-thirds (27) of the 42 schools, there was but one teacher or one teacher with one assistant. No school had more than 4 teachers. The enrollments reported showed fewer than 30 students at any one time in three-fourths (32) of the schools, with 50 as the maximum number in any school. The most common teaching load ranged from 16 to 20 students to each teacher. This would seem to permit the teachers to give a great deal of personal supervision and help during the training period. The results of the training, as reported by the schools, indicated that this was true and that the teachers thought this personal contact well worth while.

Because many of the schools had assistants on relief rolls and part-time teachers for some special subjects, such as home nursing and child care, the data reported in regard to qualifications and salaries of the total teaching personnel could not be summarized. However, of the 42 teachers in charge of the training programs, three-fourths (32) had college degrees, and only 4 stated that they had had very little or no training in home economics. Because of the increase in the number of schools of this type and the prospects of greater need for training teachers, one state reported that special certification for teachers was being established. This was being set up under the Bureau of Trades and Industry because of the vocational aspects of the work.

The reports on salaries which were received from 38 schools indicated that most frequently the teacher in charge of the training received a salary between $1,500 and $1,800 on a full-time yearly basis. The highest salary quoted was $3,000 and the lowest $1,000.

The importance of having facilities and equipment comparable to the types which the students would likely be responsible for in private homes was emphasized in the reports. Not all of the schools had been able to furnish such facilities, but where they were not available, teachers had been successful in supplementing in a number of ways the equipment on hand. Thirteen of the 17 schools that did not have homes for practical training provided by the school had made arrangements for practice periods outside the school laboratories; 6 had apartments or other specially

equipped rooms in the school; 3 were using homes of employers in the community who were interested in co-operating with the training program; and 4 had made arrangements for the students to carry part-time employment in private homes during the training period. Only 4 schools listed the use of no facilities other than those used for the regular laboratory work in the home economics department.

It might be assumed that these programs were set up only to serve the needs of the underprivileged, the unemployed, and those actually on relief who had no choice about their enrollment, but the reports indicated that they were broader in scope. The federal training centers, it is true, did provide training primarily for those on relief, and many of those enrolled in the other schools were receiving W.P.A. and N.Y.A. payments for attending the classes, but only one vocational school and two of the special adult training centers listed "evidence of need" as a requirement for enrollment. Four other schools, three for negroes and one for Mexican girls, were evidently serving the needs of low-income groups. The others were open to all who wished to enroll provided they met certain qualifications which the supervisors felt to be essential if the training period were to be worth while for the students. According to the actual enrollment data, however, a large proportion of the students did come from low-income groups. Twenty-five of the 42 reports stated that almost all of the students enrolled were from families having low incomes, and only 8 reported having some trainees considered to have "above average" incomes.

Of the qualifications set up for enrollment, age limits were listed most frequently. The minimum age set up in 35 of the schools fell within the range of from 16 to 18 years. No school admitted a student under 14 years of age. The maximum age for admittance was 25 in all except 5 schools, and no school admitted trainees over 45 years of age. Educational qualifications were specified by 6 schools, the lowest requirement listed being completion of the eighth grade. Health requirements were set up by only 6 schools. With the exception of the schools in the southern states and one set up for Mexican girls, there were no restrictions as to race or nationality. The reports of all the others indicated that the trainees represented a cross section of the peoples living in the locality of the school.

No specification as to the mental abilities of the students were listed other than "ability to do the job." No mentality tests were given. On the basis of the personal rating by the teachers in charge, the students in all except 4 schools were average or above average in mentality. To a question regarding the students' aptitudes for household tasks, about two-thirds (26) of the schools reported in the affirmative without question, 11 reported that most of the trainees had such aptitudes, and only 4 rated their students' aptitudes as "fair." There was less assurance of the students' "ability to do the job" in reports from the federal homemaking centers. These indicated that many of the students enrolled were handicapped by poor social and economic backgrounds which impeded their progress and might make them appear less capable than they really were.

It was evident that those in charge of the training programs were recognizing specific needs in this type of training and were attempting to provide instruction which would serve best the future needs of trainees. Because of the newness of the programs, however, the reports, in general, indicated that changes were still being made in plans of operation and courses of study. With the exception of 4 vocational schools, the schools reporting had offered training courses for household employees for not longer than 6 years; 20 of the pro-

grams had been in operation for 2 years or less. Many were expecting better facilities for teaching and hoping for additional funds to provide more adequate instruction. Less than half of the schools (17) reported that they had developed a course of study or a topical outline of subject matter covered. The others considered their programs as still in the experimental stage, the subject matter being changed and adapted as new groups of students enrolled.

Only one school reported a program of courses for specialized positions in household employment, such as second maid, upstairs girl, or cook. All others gave a general course which provided training for all household skills and activities. Supplementary courses included in the programs were intended to contribute to the personal and professional growth of the trainee. These courses had various names, such as Personal Problems, Personality Development, and Professional Ethics. The federal homemaking centers in particular considered one of their major accomplishments the personal development of the students, as evidenced by higher standards for personal care and appearance, better social adjustment, and increased respect for the occupation of household employment.

Training periods of from 3 to 5 months were listed most frequently. The length of the training period varied somewhat, however, with the type of project. The federal homemaking centers, the vocational schools, and the unclassified adult programs gave concentrated courses, whereas the regular day schools had to make a place for some academic as well as the vocational training. Six of the 8 adult programs extended the time because they had sessions of from only 2 to 4 hours a day. The schools listing considerably longer periods—from 9 to 18 months or "indefinite"—indicated that the extended time was due to a need for rehabilitation of the trainee as well as instruction in skills.

Since preparation for employment in private households was the primary purpose of the training, student reaction toward it was an important consideration. Student attitudes as observed by the teachers were very favorable toward the training experience, but in two-thirds (28) of the schools there was considerable questioning of household employment as an occupation. The hesitancy to take positions in private households was based on past experiences of long hours, low wages, and unpleasant working conditions. In some cases parental objections or the trainee's fear of a social stigma if she entered the occupation were responsible for a negative reaction.

Because of the marked hesitancy to take a position in a private household, the period of employment immediately following the school training was recognized as an important one in aiding or hindering the trainee's adjustment and success in the work. Only a few schools felt that they were meeting this need. All of the schools reported that help in securing positions was given to the trainees by a school service or by the state employment bureau, but only 7 had definite plans for checking on the trainee's adjustment on the job or for giving help during the first 6 months of employment. Approximately two-thirds (26) of the schools gave some help by making one checkup or by occasional visits to the places of employment, by inviting the girls to return for further help, and by having them join employee social groups such as those organized under the auspices of the Y.W.C.A.

Another important factor in making the training program function successfully was the attitude of the household employers toward the training and toward the trained employee. All except 3 of the reports stated that the employers of the com-

munity approved of the school program and that they were anxious to employ the young women who had been trained. Approximately three-fourths (32) said that the trainees obtained better positions and better salaries as a result of the training. Nevertheless, there were questions raised by many in regard to the requirements made by the household employers. Five-sixths of the schools (35) reported that they had made attempts to improve household employer-employee relations. Specific ways by which some progress had been made were: having employers on advisory councils, interviewing the employer at the time a trainee was placed, carrying out educational programs for employers, and consulting with employers who co-operated with the schools by furnishing their homes for practice periods.

These data from schools giving training courses for household employees indicate 4 developments significant for future progress in raising the status of household employment as an occupation and in building better domestic employer-employee relations. (1) Training for household employment has been accepted as having a place in the educational program. This point is important, since the first programs under the W.P.A. had no assurance of permanence. Programs established in different types of schools and for different age levels, which are increasing in scope, indicate that the training will continue. (2) Courses of study are being planned to develop professional attitudes as well as performance skills, thereby raising the caliber of the prospective household employees. The general rather than specialized training prepares the trainees for the responsibilities of the one-employee households which have hitherto had little chance to obtain trained helpers. (3) Progressive employers are interested and willing to co-operate in the training program, and they are anxious to have employees who are trained. That differentiation between workers on the basis of skills and abilities will follow is indicated by the schools' records of placements of trainees in better positions and with better salaries as a result of the training courses. (4) The training courses have opened the way to improved domestic employer-employee relations through their effectiveness in improving the attitudes of prospective employees toward household employment, but they must be supplemented with educational programs for employers if this attitude is to be maintained.

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CONSUMER EDUCATION AND THE SECONDARY SCHOOL

ELLA M. JOHNSON

FIFTEEN - YEAR - OLD Mary Smith, a sophomore in high school, lives with her parents and two younger brothers in a town with a population of about 7,000. The Smiths live comfortably on the modest $1,500 income which Mr. Smith earns.

Mary expects to attend business college when she has completed her high school work, as there is always a demand for stenographers and secretaries at the county seat; so she is already planning her career as a business girl.

She has never been called on to make any major decisions, since she has led a protected life in a family where there are strong affectional ties and a feeling of security for all family members. She has, however, been anxious about finances, because at times she knows that her parents worry about expenses and her mother scolds when she or her brothers ask for money. Finances are never discussed when Mary is present; yet she knows that her mother and father worry, and so she worries too.

Mary's high school training should equip her to solve her everyday problems: now as a high school girl, later as a business college student, still later as a young woman in business, and eventually as a homemaker. She will have progressively more varied and more difficult decisions to make: today, whether to buy a candy bar; later, whether to save her money for a summer vacation at camp or to buy a new coat; and eventually, whether she and her husband should rent or buy a home and how to finance the purchase.

The choices she will make later as to school, friends, vocation, and expenditure of money, time, and energy will depend on the values which she has come to believe are important. Is the education of today helping her and the millions of other girls and boys in our schools to set up values wisely? Teaching students facts concerning consumption has value only so far as knowledge of those facts makes it possible to choose goods and services in accordance with values believed important.

School people agree that consumer education is necessary for training the boy and girl for intelligent American citizenship, and as a result are placing consumer education into the curriculum. Where no staff member has had special training in consumer education, superintendents and principals often assign the teaching of this subject to persons trained in other subject-matter fields. Homemaking teachers have too often been passed over in such cases, although they are informed on many practical aspects of consumer education. This is in part because some teachers of homemaking have failed to relate their teaching to the wider socioeconomic problems so that superintendents have not realized their value for teaching consumer education.

Home economists are seriously asking, "What is the future of the study of consumer education in the public schools and what part shall we play in the development of the program?" We need to recognize several important facts:

1. That all students, boys as well as girls, need continuous consumer education. As consumer problems of the individual

vary with his development, study of them should be included in the educational program from early childhood through adulthood.

2. That consumer education cuts across many subject-matter lines, so that teaching the subject should not be limited to any one teacher or to any one subject-matter area. Only in so far as administrators and teachers recognize this fact, can they work out a consumer education curriculum which meets the everyday needs of the students.
3. The consumer education program should be planned co-operatively on a school-wide basis, with the students participating in the planning. All the teachers need to consider together the consumer problems which they, the students, and the community are facing. Teachers' meetings or committee meetings might be devoted to such problems as:

a. What are the students' consumer problems? How can the school program contribute to understanding and solving them?
b. What are the teachers' consumer problems? Food, clothing, shelter, professional advancement, recreation, are problems which face them as well as students. Co-operative planning in the solving of some of these would give a group of teachers incentives for studying issues which vitally affect not only themselves but also the community. Moreover, if teachers handled their own consumer problems intelligently, teaching would be more vital.
c. What consumer problems are facing the citizens of this community? Which can be solved better by group action than by individuals? When costs of living are rising, teachers and parents need to work together to find ways of meeting these changes.
d. What phases of consumer education are already being taught in the school? If the home economics teacher is now helping the students to read labels on groceries, canned food, clothing, or furniture, or, if she devotes several lessons to a study of the selection of good toys for children, what other aspects of consumer education could she emphasize? If the mathematics teacher is guiding the students in the study of installment buying costs and the computation of interest on various kinds of loans, what else may he include? Each subject-matter area can contribute toward a better understanding of consumer problems, and we need to make certain that more than a superficial study is being made.
e. What phases are neglected? Does Mary Smith have the information she needs about such problems as health protection, medical care, credit for financing her business college education, furnishing and equipping the home she will have some day, clothing values? Will she complete her high school work knowing a few homemaking skills but lacking the basic attitudes which will make her an intelligent citizen?
f. What are the minimum essentials in consumer education? How should the curriculum be reorganized in order to give them to all students?

Each school will need to work out the plan which will best meet its particular conditions. Among plans suggested are the following: (1) having a separate consumer course taught by a teacher especially trained for this work, (2) offering a separate course taught co-operatively by teachers from several departments, (3) offering consumer education through a core curriculum with a sequence of problems of living, (4) teaching the minimum essentials of consumer education through units in existing required courses, with definitely correlated enrichment through inclusion of specialized aspects of consumer education in existing

elective courses, or (5) teaching consumer education incidentally in a variety of subjects and courses.

No one plan or method can be prescribed for carrying on consumer education, but there is need for wide experimentation and study to know how best to utilize all the resources of the school and community for effective learning by the students.

To teach consumer education realistically, the teacher must know the problems of the families whose children she is teaching. This means home visits; conferences with parents, students, social workers, and others in the community; firsthand information as to goods available on the market; study of current information on production, marketing, and advertising techniques. Further, she herself must have the consumer habits she wants to urge upon others. Good preparation for consumer education includes a great deal of what may be called self-service training, application of knowledge and principles, informed and thoughtful observation, and daily learning as a consumer. The teacher who analyzes her own expenditures and thinks of her own consumer problems in a scientific way is in a better position to do a good job of teaching than is the person who gives only lip service to the subject and whose students know that she often makes unwise purchases and has no basis for solving her own consumer problems. To be effective, consumer education must be taught in terms of daily living.

Teachers with inadequate training can study consumer education during the school year with some interested group or take courses in summer school.

One home economist in a school cannot solve the educational problem alone, however. She must do co-operative planning with other members of the school staff.

HOME PRESERVATION OF FOOD[1]

HELEN KLAAS ENGDAHL

THE preservation of the home-grown food supply is important in national defense. A good supply of home-preserved foods is not only an economy; it improves the nutrition and general well-being of the family. These foods afford good-quality meals of great variety.

Several methods of preservation are used in the home, among them drying, pickling, salting, smoking, pit storage, jelly-making, canning, and freezing. Each of these methods is of value under some circumstances, but canning and freezing are two of the most important methods of home preservation. These two methods—canning and freezing—are being studied at the University of Illinois in a project which was started under Dr. Sybil Woodruff's direction.

Although for many years foods have been preserved in the home by canning, there are frequently losses because of spoilage and occasionally serious illnesses from eating the food. For a method to be satisfactory for use in the home, it must yield products that are bacteriologically safe.

Among the common types of spoilage are putrefaction in nonacid foods, such as corn, peas, and meat, and fermentation in foods that contain a sugar sirup. Flat-sour spoilage, caused by a thermophilic organism, results in production of acid without gas formation in nonacid vegetables.

A serious illness that may result from home-canned food is botulism; in 1940 there were reported 15 outbreaks due to home-canned food. It is caused by the toxin produced by *Clostridium botulinum* under anaerobic conditions. This toxin is a very powerful poison, for a very small amount of it may be fatal. It is easily destroyed, however, by boiling. The vegetative cells are also easily destroyed by dry heat, but the spores are extremely resistant. Since *Clostridium botulinum* is an anaerobe, it can develop well in canned foods in the absence of air. Food in which it has developed usually has a strong, foul odor, sometimes described as "cheesy," and may be impregnated with gas.

The methods which should be employed in canning to prevent all types of spoilage depend on a number of factors. In the first place, the thermal death time of the spores of spoilage organisms should be determined; that is, the time and temperature of heating which are necessary for destroying all the spores. It has been found, for instance, that some of the most resistant spores withstand a temperature of 212°F. (100°C.) for 330 minutes or 248°F. (120°C.) for only 4 minutes.

In addition to the thermal death time of the organisms, it is necessary to know the rate of heat penetration into the center of the jar. The heat penetrates either by convection or conduction. If liquid circulates freely throughout the food, then the heat is carried by convection currents to all parts of the jar. This method is more rapid than conduction, which occurs when the food is a thick mass. The type of pack also influences the rate of heat penetration, for the heavier and tighter the pack, the

[1] Presented before the food and nutrition division, American Home Economics Association, Chicago, Illinois, June 24, 1941.

less free liquid for transferring the heat. More of the heat transfer is then by conduction and consequently at a slower rate.

The temperature of the food when it is packed in the jar also influences that reached in the center of the container during processing. Whenever a high temperature, especially one above boiling, should be reached in a short time, it is essential that the foods be well heated before they are packed.

Another factor which is important in determining the necessary processing method is the acidity or the pH of the foods. Foods that normally have a low pH are more easily processed than the nonacid ones. Since the acid aids in the destruction of spoilage organisms, acid foods do not need to be processed at as high a temperature as the nonacid foods.

With information about the thermal death times of the organisms, the rate of heat penetration, and the pH of the food, the theoretical time and temperature for processing can be calculated. It then remains to determine in the laboratory, with the theoretical values as a guide, the actual processing required.

Our study of home-canning methods includes a comparison of the efficiency of three methods of processing nonacid vegetables and tomatoes: (1) the pressure cooker, (2) the hot-water bath, and (3) the oven. The processing directions followed are taken from well-known sources. The effectiveness of the processing is being determined by bacteriological studies. One-third of the pack is inoculated with the spores of the organism causing flat-sour spoilage; another third, with *Clostridium botulinum* spores; and the other third is the control pack. After the containers are processed and stored for several months, the contents are examined bacteriologically to determine the percentage of spoiled products and the percentage of containers in which the presence of the spores can be demonstrated.

Our bacteriological studies confirm and emphasize the importance of processing nonacid foods in the pressure cooker. The spores of the spoilage organisms are very resistant to heat and are not easily destroyed by boiling water. The temperature of the pressure cooker—either 239°F. (115°C.) or 250°F. (121°C.), depending on the food—is necessary for insuring safety against flat-sour spoilage and botulinum poisoning.

Studies are being made on the heat penetration during processing and cooling of the containers. Temperatures are automatically recorded by a thermocouple inserted in the container. The temperature is found to rise more rapidly in a container of peas or beans than in one of spinach or pumpkin. This difference is caused by the method of heat transfer previously described, and that in turn is the result of the amount of liquid in the container. These measurements reveal clearly why it is necessary to process some nonacid foods, such as spinach and pumpkin, at 15 pounds pressure (250°F. or 121°C.), while 10 pounds (239°F. or 115°C.) is adequate for others.

The value of blanching or precooking nonacid foods is also apparent from the heat-penetration data. When the foods are packed hot, less time is required for the contents to reach the desired temperature. Precooking has other advantages, for it shrinks the food and permits larger amounts to be packed easily in the container.

While nonacid vegetables and meat need to be processed in the pressure cooker for safety, acid fruits and tomatoes may be processed adequately in the hot-water bath. Although the acid aids in preservation, it should not be relied on to too great an extent and the food must be thoroughly

heated during processing. When the heat penetration data for processing tomatoes in a pressure cooker at 5 pounds pressure for 15 minutes are noted, it is apparent why the *Clostridium botulinum* spores survive in spite of the use of the pressure cooker; it appears that the temperature reached at the center of the container is lower than that reached during processing in the water bath for 45 minutes. This explains why the 15-minute pressure method is not sufficient.

Although it is primarily important that home-canning methods yield bacteriologically safe products, they should also give foods of the best quality. It is generally realized that the high temperature and long cooking periods necessary for safe processing, alter very markedly the appearance, texture, and flavor of the original foods. There are certain precautions that can be taken, however, to safeguard the quality. Among these are the prevention of overprocessing and the cooling of containers as quickly and thoroughly as possible.

The use of tins has certain advantages over glass, for tins are easy to cool and their use often gives a product of superior quality. When foods are processed in glass jars in the oven, loss of the liquid often causes discoloration and off-flavor, and this is avoided by the use of tins. The tins are easier to fill and handle, there is not the danger of breakage that there is with glass, and more of them will fit in a pressure cooker. Tins, however, cannot be used as many times as glass jars; they necessitate the use of a special can sealer; they present a labeling problem; and in the present emergency they may be difficult to obtain.

The quality of the canned food varies with the method of processing but must not be the primary factor in determining the method. For instance, corn processed in the hot-water bath sometimes has a brighter yellow color and a better flavor than that processed in the pressure cooker. These factors are indications of a lower temperature and in this instance of inadequate processing. Such features must not be considered more important than safety. A recent outbreak of botulism with two fatalities was attributed to home-canned tomatoes that had been incorrectly processed. The homemaker had obtained apparently high quality tomatoes by her method of processing, for she had won prizes at fairs; but her method failed to guard against botulism.

The oven method of processing generally yields products of inferior quality in color, texture, and flavor. In glass jars the liquid boils out so completely that discoloration, caramelization, and drying frequently take place. We found that temperatures above boiling were reached in the center of the containers, especially in the tins, indicating that pressure was developed. Because of the danger from the pressure developing in the containers and not on the outside and because of the inferior quality of the food, the oven method of processing is not recommended as a home procedure.

As a further precaution home-canned nonacid foods and tomatoes should be boiled before they are tasted. This boiling will destroy the toxin produced by *Clostridium botulinum* and eliminate the danger from eating the food, in case the odor and appearance do not reveal spoilage.

Another method of preservation that is gaining in popularity is freezing. Although freezing is generally considered a new means of food preservation, it has actually been used since the Stone Age. Modern science has led to its more recent development, and within the last eight or ten years the frozen food industry has had a

phenomenal growth. From a beginning with frozen fish along the North Atlantic coast and barrel-packed strawberries in the Pacific Northwest, the industry has now come to freeze more than half a billion pounds of many kinds of food a year.

Along with commercial freezing, the community storage lockers and home freezing units have grown rapidly. The fact that 85 per cent of the community locker plants now operating have been built since 1935 shows how new the local freezing of foods is. Its acceptance and growth are illustrated by the fact that there were approximately 1,200 locker plants in 1938, 2,900 in 1940, and 3,200 in the early part of 1941. Lockers are found in almost every state, but they are especially prevalent in the Midwest and Pacific Northwest.

In some parts of the country, especially the eastern states, the home freezing units are more prevalent than the community lockers. In the Midwest, however, the home lockers are only beginning to be of importance. A number of different styles are being made. Some are just a freezing compartment connected with a home refrigerator. Others are a single storage space held at 0°F.; some have two divisions, one for freezing and another for storage. Still others are the large walk-in units intended to meet all refrigeration needs on the farm.

It is agreed that freezing must be rapid in order to preserve the fresh characteristics of the food. The rate of heat removal from the tissues determines the number and size of ice crystals. Rapid freezing yields a large number of very small crystals which do not rupture the cell walls so much as do the larger crystals formed during slower freezing. When the cell walls are broken, leakage occurs on thawing and a flabby texture results.

No agreement has yet been reached as to the most satisfactory method of obtaining rapid freezing. The methods most commonly used in community and home preservation are: a freezing space in which the temperature is −20°F. (−29°C.); a space in which there is a temperature of 0°F. (−18°C.) and also an air blast; and a series of plates through which the refrigerant circulates. The low-temperature compartment is most prevalent because it has the simplest construction and is least expensive. The series of plates seems most adequate because it allows each package of food to be in contact with the cold surface.

Since the locker industry is growing rapidly and careless or inefficient locker managers may give inferior service, some states are passing laws to regulate the business. The laws govern such features as the temperatures maintained in the chill, the storage, and the quick-freeze room, and also the sanitation of the plant.

Although the storage lockers are intended primarily for farm families who raise their own food supply and need means of preserving it, they are being accepted by urban families also. The latter find it to their advantage to purchase good quality meat carcasses or fruits and vegetables in season at a low price and have them frozen and stored.

Freezing as a means of preservation has very definite advantages over canning. In the first place, it gives products that are very similar to the fresh in appearance, color, texture, and flavor. The high temperature and long processing necessary for canning alter these characteristics, while the low temperature of freezing preserves them to a great extent. Frozen fruits and vegetables usually have, however, a slightly softened texture, slightly faded color, and a slight storage flavor. They are so superior to the canned, however, that it is a satisfaction to have them for use during the winter.

In nutritive value the frozen foods also compare favorably with the fresh. There

is always a certain loss of food value in the mechanical preparation of fruits and vegetables and in the cooking process. These losses occur in both frozen and fresh foods. Vitamin C, especially, tends to be destroyed after the material is harvested. If fruits and vegetables are frozen promptly, given adequate treatment before freezing, and stored at 0°F. (−18°C.), there will be very little loss of vitamin C as the result of freezer storage. The losses of other vitamins are even less than of vitamin C.

It is easier and simpler to prepare foods for freezing than it is to can them. Many locker plants are equipped to take full charge of meat—butchering, chilling, cutting, wrapping, and freezing it. The men at the plants are usually skilled butchers and handle the meat properly. By this service farm families are relieved of a tremendous amount of labor. When home freezers are used, the family has complete responsibility for the meat. In the case of fruits and vegetables, the homemaker generally has to prepare them for freezing whether community or home lockers are used; but the laborious, hot processing necessary for home canning is eliminated by freezing the foods.

In order to have the best quality of frozen foods, care must be observed at all times. Meat carcasses of good quality must be chosen for freezing, but meat requires no special treatment before freezing. Beef and lamb become more tender if held in the chill room for a week after slaughter. Pork should be frozen soon to minimize the development of rancidity.

Certain varieties of fruits and vegetables are better adapted to freezing than others, some losing their natural color, texture, and flavor more easily. It is well worth while for the farm families to learn what varieties are adapted to their climatic conditions and also to freezer storage.

In addition to choosing a suitable variety of fruit or vegetable, it is important to use high-quality, fresh products for freezing. If the surplus which may remain at the end of the season is used, the product may be inferior. Freezing preserves the good qualities in fruits and vegetables but does not improve the poor ones. In fact, it seems to emphasize the undesirable characteristics, such as woodiness in asparagus, starchiness in corn, and seediness in berries. The produce used for freezing needs to be carefully sorted so that it will be of suitable maturity. This means at the stage which is best for table use.

After high quality fruits and vegetables are selected, they should be frozen quickly to prevent changes in the sugar content and loss in nutrients, especially vitamin C. The bacterial load will also be kept to a minimum if the foods are not held before freezing; storage in a warm place is especially to be avoided. Vegetables in particular should be prepared for freezing within a few hours after harvesting.

Before freezing it is necessary to inactivate the enzymes in fruits and vegetables. If the enzymes are permitted to remain active they soon produce poor color, a tough stringy texture, and a very strong hay-like odor and flavor. In vegetables the enzymes are destroyed by blanching, which consists of holding a small amount of vegetable in a large quantity of boiling water for a definite length of time and then cooling it as quickly as possible. The blanch which should be used varies with different vegetables. It is determined experimentally by palatability tests after freezer storage and by the determinations of amounts of enzymes present, especially catalase and peroxidase, and of vitamin C. The optimum blanch should give the best quality product, the lowest content of enzymes, and the highest retention of vitamin C.

In fruits the activity of the enzymes is inhibited by the addition of a sugar sirup or solid sugar. Whether sugar or sugar

sirup is used will depend on the type of fruit and the final product desired. In any case, all the fruit should be covered with a liquid to prevent contact with air. If the fruit is naturally juicy the sugar can be dissolved in the juice, making a sirup. With solid fruit, such as gooseberries, it is necessary to add a sugar sirup to stop the activity of the enzymes.

The recommendations given in University of Illinois Circular 510, "How to Prepare Fruits for Freezer Storage and How to Use Them," are the results of our study.

The selection of a suitable container or wrapping is not so simple a problem as might be expected. For meat a moisture-vapor-proof wrapping must be used to prevent freezer burn, desiccation, and absorption of odors. For fruits and vegetables glass jars have certain advantages: they are easily available, can be sealed easily, and present no labeling problems. The disadvantages, however, are that they are easily broken and waste valuable storage space, since they do not pack efficiently in the locker. The containers which are proving most satisfactory are rectangular cardboard cartons with a moisture-vapor-proof lining. To make them generally acceptable for freezing fruits and vegetables, they should be easy to fill, easy to seal, and easy to open again, as well as inexpensive.

Frozen foods are essentially fresh foods and should be treated as such. They should be kept frozen until a short time before they are to be used, for bacteriological deterioration commences as soon as the food is thawed. Freezing decreases the number of bacteria but does not sterilize the foods. Consequently, frozen foods are very perishable after thawing and should be used soon after removal from freezer storage.

Canning and freezing are two important methods of home preservation of foods and should be used to supplement each other in preserving the home-grown food supply.

ATTAINING AND MAINTAINING FOOD STANDARDS IN A COMMERCIAL CAFETERIA[1]

LENORE RICHARDS

IT WAS my good fortune this spring to visit the Universities of Minnesota and Illinois and Purdue University. I was much impressed by what I saw—the quality of work and the standards in food and service which were being given to the institution management students. Had I had the time to visit the other institutions offering similar work, I would no doubt have found the same conditions. It is therefore in the greatest humility that I come to tell you, who are doing such a satisfactory job, what I feel is necessary to attain and maintain food standards. Whatever I can say will be an old story to each of you.

In one of the monthly messages which Mr. James Ford Bell publishes in the *Millwheel*, General Mills' magazine for stockholders, he said,

> We live in a changing world, a world changing so swiftly that unless we prepare ourselves its sudden changes make us dizzy and uncertain. This morning's events are already history by tonight. . . .
>
> In such a world we can not build for today alone. We must build for tomorrow. The knowledge and procedures of today will not suffice for the needs of tomorrow nor will they solve its problems. . . . To give the best of our knowledge to the men and women of a new generation, to see in them all we had and still more, to build master craftsmen in every line, who will in their turn create in still another generation the same desire, the same power to do what we are given to do, not just well, but always better, this is progress.

This to me typifies what our institution food problem is and must be. It is change, adapting our needs and processes to that change, but changing only to progress and grow. For change without growth, without progress, is not enough. We must go forward, or we slip back. To do this successfully, we must, as Mr. Bell has said, be willing and ready to plan to train and to build managers, submanagers, and technicians who can help to execute our plan. But first we ourselves must have a plan, and it must not be a static one.

The first essential to good food is a manager who knows good food. Attaining the goal of any organization depends on the quality of its leadership. That quality "comes down from the top" is as true in the production of good food as in any other business. Therefore, the manager must have a knowledge of what constitutes good food, an appreciation of food, and a real liking for it to attain quality food production. To reach the desired end, an ideal and a standard must be set up by her. In a talk before the National Restaurant Association two years ago in New York City, Joan Rock of Pratt Institute set up certain standards which we have found helpful in judging our management girls as to whether they qualify and in what respects they especially succeed or fail. She said that in order to make a success the person doing institution management work must have four loves: a love of food, a love of figures, a love of people, a love of hard work. Since then, we have used these four gauges very often and have found that in so far as any one of these four loves is not present and active, in so far the person

[1] Presented before the home economics in institution administration department, American Home Economics Association, Chicago, Illinois, June 25, 1941.

fails to measure up. Think over the institution managers of your acquaintance and you will see that the person making an outstanding success will qualify accordingly. But for the purposes of our discussion here, it is the love of food which is especially essential.

Standardized recipes are the second need. Even though the leadership is good, unless there are standardized and tested recipes, the task of producing quality food is next to impossible. These standardized recipes, giving a complete listing of ingredients with weights and measures and detailed instructions, are essential. For speed and accuracy we use scales almost entirely at the Richards Treat. In a few cases liquid measures are used, but we are reducing such practice to a minimum and substituting the use of scales for all liquid and dry ingredients. The recipes should be broken down into varying amounts so that if a portion of the recipe is desired, that amount can be produced without the cook's having to stop to multiply or divide, with the consequent opportunity for errors to creep in. These recipes should also include not only the number of servings but the size or weight of servings, as well as details of garnish required to give the dish eye appeal and selling value.

Selection of employees is the next step. We must select as employees to go into the kitchen and cook those who can and will follow a recipe. Many, especially among the foreign-born, can cook after a fashion; but they do not achieve standard production because they do not follow recipes, except such nebulous formulas as may be in their heads. That type of inspired but unscientific cooking is fatal to quality food day after day, and consistent quality is necessary to success, especially in a commercial restaurant.

Another factor which we must provide is an adequate physical plant. A well-planned kitchen with complete equipment is necessary to good food production. The layout should be such that the processes may be carried out in an orderly way with the minimum of crossing of lines and unnecessary steps and handling. Clean, adequate utensils, measures, and scales should be at hand. The kitchen should be airy and well-lighted. Unless good working conditions are provided and a sense of self-respect on the part of the employee is built up, good food will not be produced. A chaotic kitchen, unorganized or messy or dirty, will usually turn out a similar type of food.

To sum up, we have set up the following essentials for the production of good food: a manager who is interested and appreciative of good food; carefully worked out and standardized recipes; cooks who will follow recipes accurately; and last of all, working conditions such as will permit and promote quality production.

Subsidiary to these, but necessary adjuncts, are carefully planned menus, intelligent buying, and planning of food production based on records of former operation.

Adequate planning involves complete and detailed menus planned in advance so that the satisfactory execution of them is possible. At the Richards Treat, we try to plan at least two weeks ahead. Of course, all the established rules for proper menu-making must be considered—season, occasion, the kind of public, their economic status—but it is unnecessary to discuss these with you, who know them well.

Intelligent buying means giving consideration to quality, price, and amount. The amount bought should be based on the record of former sales of a given food, for experience shows that under similar conditions approximately the same amount will be consumed when served again. Just the right amount of a food should be purchased for the meal or meals on which it appears. Because a "good buy" on

spinach, berries, or melons is possible, it still is unwise to buy more than can be used up while the product is still in prime condition. That would lead to waste, with attendant higher cost, or a menu monotonous because of too great repetition in order to use up the overpurchased food.

Controlled production is necessary for good food. Cook only as much as is needed for a given period. For example, cook potatoes for mashing for only a short serving period; spinach, beans, and carrots in small amounts, frequently. The same is true of meats. Of course, a roast must be prepared ahead, but veal steak, sirloin patties, liver and bacon, or even scalloped combination dishes, to give a few examples, can be prepared as needed. The old day of the bain-marie piled with food already cooked and ready for luncheon service at 10 or 11 o'clock in the morning is past. Even in the biggest hotels, batteries of small pressure cookers are assuring the luncheon or dinner guest of freshly prepared and delicious vegetables cooked practically to order.

While underproduction is not desirable because the last guest is entitled to the same choice as the first one, overproduction is the arch foe of quality. Only freshly prepared food is "quality food," and if overproduction is allowed, our goal of good food quality is not attained. Waste, shrinkage, and high labor costs follow, and food quality goes out of the door.

In the matter of planning carefully, I would like to tell a story heard from a former food production manager of Child's. He said that in the early days of the Child Restaurants, Mr. Child was such a stickler for careful food planning and no left-overs that the manager who finished up a meal with one cod-fish ball left over was in disgrace. That is a standard hard to achieve but certainly worth working toward.

It may be of interest to know specifically how the Richards Treat handles its problem of attaining food quality. The menus are made out in the office by either Miss Treat or me. If we are both on the job, we divide them, Miss Treat attending to the salads and desserts, I taking on the soups, meats, and vegetables. When the menus are made out, they go to the counter supervisor, who from her records orders the number of servings which she thinks she can sell of each food listed. Of course, she must consider the combinations and choices offered, to decide whether a food will go well or poorly in combination with more or less popular choices. Then the menus go to the production manager, who checks the market, the availability, and cost of certain items and reports back for changes if the material is not available or too expensive. When the meal is ready for preparation, the production manager and I go over the menu in its final form, fitting in the inevitable left-overs which a cafeteria must plan for. I say inevitable, since a complete choice at the end of the meal is essential to a satisfied clientele in a commercial cafeteria; so perforce those last-filled pans of food must be taken care of at the following meal. The last step before final execution of the menu is to draw a plan of the counter, especially of the steam table, and indicate just where and in what kind of pan each food shall be cooked or served and where placed on the counter. Here attention must be given to the amount of food on hand, where it will sell best, what food must be pushed either because it has been overproduced or it is cheap or it is on as a special. Color, variety in preparation, all these must be considered, too, to the end that no two fried foods or creamed foods or foods similar in color are placed side by side. This chart or plan is made by the counter supervisor after talking with the production manager. We consider that the counter supervisor is a retail store manager. She buys her food from the production manager, so to speak.

It is her job to sell it. Hence it is her responsibility and privilege to establish how and where she will place it in order to make it move according to her plan.

Having now set up means for attaining good food, we can maintain that standard only by constant supervision. How shall this supervision be made really effective? That is the job of management. It is the inspirational side. To be a success, the head of the institution must be discriminating, must be critical in the helpful sense, must have vision and adaptability. She must have interest in food, "love of food" as Miss Rock says. She must have an open mind and intellectual curiosity. She must be alert to new foods, new equipment, new construction. She must go to market and see salesmen, even though buying may not be her responsibility. She must visit other restaurants better than her own. She must associate with those who are more farseeing than herself, and then she must be ready to share the ideas received with those with whom she works to give them uplift, inspiration, and interest to do always a better job. She must have courage to do a thing first, enthusiasm to put it across, vitality to drive through to a conclusion any new thing she may attempt. She must like travel and should be able to go away often enough to bring back new and inspired ideas and put them across to her associates.

The Richards Treat tries to solve its problems of supervision by dividing up the responsibility between the different assistant management heads. There is a kitchen supervisor, a counter supervisor, a dining-room supervisor, a food-shop supervisor, and also a general manager who is responsible to Miss Treat and me. How do these function in maintaining good food?

The kitchen supervisor, of course, has the lion's share of responsibility in this respect. It is her duty to see that the cooks and their helpers follow uniform and standard methods in preparing the recipes and dishing and serving the food. It is her task to see that every product is tasted, in order to insure quality and uniformity, to check "try" cakes, for example, and keep an eye on oven temperatures and all the myriad things which contribute to quality. She is responsible, too, for checking new recipes and delivering the resulting dish to the office for tasting and criticism and finally for figuring costs. The best recipe in the world may be an impractical one from the standpoint of labor or "standing up" on the cafeteria counter or too high initial cost. All these factors must be considered. And for maintenance of quality, it is necessary to feed new recipes into the active file because the best of food unrelieved by change and variety soon palls.

When the food leaves the kitchen it has ceased to be the kitchen's responsibility and becomes that of the counter supervisor. We have already stated that it is the duty of the counter manager to set up the counter. Maintenance of quality is dependent on judgment here. If order and arrangement are not such as to move the food, it will deteriorate by long standing. If the counter is not kept clean and if the plates are not served with care, the first impression is not one of quality, and the customer's reaction is not favorable. That is important because eye appeal helps bring out appetite appeal and flavor and makes the customer's reaction a satisfactory one.

The dining-room supervisor has a part to play, too. An alert eye for food not eaten, for poorly served plates, helps to check on both counter and kitchen, and if a mistake has slipped by both, it may be caught in the dining room before many have been served that particular food. In a commercial cafeteria at least, the customer is not interested in excuses and reasons why a thing is so, but only in the fact that what he has bought is up to expectation. So, too,

the atmosphere of the dining room—its quiet, order, cleanliness—contributes to a feeling of well-being and satisfaction in the food. Hence the dining-room manager has a real part in putting across food quality.

Of course, Miss Treat and I enter into the picture by being critical of everyone and everything. It is our endeavor to be helpfully so, but also if a thing is not right it must be changed and corrected at once and reasons why discussed later. The S and W Cafeterias have an excellent system of conferences to that end. At 10:00 each morning the managers and submanagers meet to go over the events and attendant problems of the day before. The good and bad are discussed, weighed, and corrected. This is a sound plan and one we could all adopt with profit.

The success of any outstanding restaurant is built up because the manager is willing to give herself or himself up to constant supervision. All of the points mentioned above are necessary, but in addition there must be supervision, supervision, and more supervision. One of our fellow restaurateurs expresses a wish that we all feel when she says, "I wish that sometime I could go down the counter at our cafeteria and not find one single thing to criticize." In that connection we enjoy a story she tells which illustrates how the employees must frequently feel. Following an especially good luncheon she went to the kitchen and said to the cooks on duty, "I want you to know that I had an excellent luncheon today. The soup was just right in flavor and consistency, the salad crisp and the dressing perfect, the pie just as I like it. It was an excellent meal." The colored stock-room man was standing there, mouth agape, "My land, where did you lunch today? Surely not at our cafeteria!"

This story illustrates the point that successful restaurants known for their good food are so known because the managers are forever on the job and never quite satisfied. Again to quote Mr. Bell, a motto we might all adopt with profit is "Not as good as, but better than."

SIGNS OF THE TIMES

A.H.E.A. ADJUSTS TO CHANGED NEEDS

MARGARET WYLIE and ETHEL B. WARING

The test of an organization is its adaptability to changing needs for continuing and expanding service. The American Home Economics Association is demonstrating that it can meet the needs of its membership by making suitable changes in its organization. This is evident in what may appear to younger members (unfamiliar with the history of the Association) as merely the dropping of a department—child development and parent education—and the enlarging of a division—the family and its relationships—within the Association.

This seemingly simple change is doubly significant. It registers a change in the status of a group of professional workers during a period of development from private to largely public support. It tests the ability of the Association to adjust to such changes.

The present organization of the Association on the basis of divisions and departments was planned so that a member might divide her effort, enriching her subject matter through her work with a division and sharing the problems of fellow workers in similar professional activities through her work in a department.

In the early years of the existing plan of organization, the work of a specialized group was made possible by a grant from the Laura Spelman Rockefeller Memorial and from other private funding agencies which sponsored work in child development and parent education in a variety of centers. These workers naturally constituted a department with common interests and problems more vital and pressing than the interests and problems a member might share with other departmental groups.

As private funds were gradually withdrawn and the activities which they had made possible were taken over by existing educational agencies, the specialized workers took over responsibilities and interests within colleges and universities, elementary and secondary schools, extension service, and research.

Although the specialized workers varied in their professional interests, they continued a common interest in the subject matter of child development and parent education—an interest which should be provided for by a division rather than a department. The field of child development and parent education so largely overlaps the field of the family and its relationships that most of the members have felt responsibility in both areas, with the result that some sort of adjustment has been called for. For a few years the expedient of combining for part of the convention program has been used. This year an additional step has been taken promising a more realistic solution of the problem.

The joint membership of the two groups involved has suggested that next year the department be dropped and its members be free to join their respective professional groups, and that their subject matter interests be cared for in an expanded division that will include child development and parent education and the family and its relationships.

As preliminary steps toward this solution, the joint membership is sponsoring this

year a joint plan of work and a joint program for the 1942 convention. A joint committee is working on a name for the new division which will be inclusive of the related subject matter fields.

It is indeed a hopeful sign that the members of these groups have been alert enough and flexible enough to work out an adjustment in organization as their professional situation has changed.

A CO-OPERATIVE PROGRAM FOR TRAINING FOOD SERVICE EMPLOYEES

DOROTHY KELLAR

How can the home economics department help girls secure table service and counter service employment? What are the opportunities for food service employment? What general conditions of work prevail in this occupation? What qualifications are necessary for success in it? What type of high school training program for food service employees would be feasible?

A Springfield, Illinois, study was recently made to find answers to these questions. Information was gathered from operators of 46 restaurants through an occupational survey sheet, a check list of desirable qualifications for an employee, and a check list for job descriptions. From the data thus collected was drawn up a co-operative plan for training in these occupations.

At the time of the survey, the 46 establishments employed 285 girls; but 418 new girls had been employed during the preceding year, indicating a turnover in employment of 147 per cent. The employers said that well-trained girls were difficult to secure and that lack of training was a major contributing factor. Eighty-five per cent of these girls were less than 25 years of age.

All the employers said that no vocational training for food service was available outside of actual employment; yet approximately half of them required experience previous to employment. Only a few gave additional training after the hiring. Employment was largely a trial-and-error process wherein employers tried out numerous applicants and retained the more promising ones.

Food service employees were expected to work for 48 hours a week at wages ranging from $6 to $20 according to their experience, the type of establishment in which they worked, and the amount of responsibility they carried. Meals and sometimes uniforms were furnished, and tips might increase their income as much as 100 per cent. Employers carried workmen's compensation insurance but in most cases did not grant vacations with pay nor wages during illness. Employers expected good health but did not generally require a physical examination.

The data revealed that at least 75 per cent of the employers desired the following personal characteristics: good grooming, attractive appearance, good English, ability to make change, and the ability to figure. They further desired girls who told the truth, were willing to carry a fair share of the load, were eager to learn, understanding of the point of view of others, kind and courteous to others, able to discover new ways to do work, and were willing to ask questions. Religion and nationality were considered unimportant.

Employers expressed their willingness to work with the school in establishing a co-operative training program by allowing students to visit their establishments in order to observe the work done, and when possible by employing students who had successfully completed an approved school training course. They agreed to accept students as apprentices for several hours a day under the joint supervision of the school instructor and the restaurant manager.

The training plan was drawn up in co-operation with members of the local restaurant association. Details of such a plan anywhere would have to be worked out through the co-operative efforts of a food service employers' advisory committee, the instructor of the course, and the school officials.

The co-operative program made the following demands:

1. Trainees must be at least 16 years of age with a minimum of two years of satisfactory high school work. They must submit to a physical examination and be free from contractual and contagious diseases and serious physical handicaps. They must also have acceptable personal characteristics.

2. The actual training of these prospective employees should consist of two parts: (a) school food service training for a minimum of 90 class hours, including theoretical instruction, practical experience in the classroom, and a two-week observation period, and (b) apprentice training under the supervision of an employer.

3. The trainee should be assisted in finding employment after completion of the course. Records and reports of her work should be made available. During the training course she should be taught how to apply for positions. She should be registered with the public employment service. After employment the teacher should maintain contact with her in order to guide her and to keep her informed as to promotional opportunities.

If this training program were carried on under the supervision and administration of the distributive education division of the State Board for Vocational Education, state and federal funds would be available for much of the financing of the program.

Although the findings presented refer only to Springfield, Illinois, where the study was made, it is probable that similar conditions exist in many other communities and that similar co-operative training plans could be developed.

VERIFYING STUDENT FOOD STANDARDS

ROSALIND LIFQUIST SIMON and P. MABEL NELSON

College women "are not accustomed to work; . . . nor do they have either speed or skill."[1] So declared a prominent inn manager who started her own professional career with a minimum of experience and hence knows the heartache of college girls who are unable to measure up to what is expected of them in jobs.

In an attempt to prevent failures and minimize heartaches "on the job," the department of foods and nutrition at Iowa State College has developed the Home Experience Project and Examination. It is required of all home economics students and is designed to give experience in food preparation under home conditions, to develop ability to judge standard foods, and, incidentally, to give practice in serving meals.

In executing the project, students are asked to plan, purchase, and prepare meals for a family for two one-week periods—either five periods of five successive days, or seven periods of three successive days. The first plan is preferred, as the problems then more nearly approach those of the home.

As the students have not yet had class instruction in meal planning and service, the staff makes suggestions for menu planning according to nutritional needs.

Within a month after completion of the project the student must submit a report on it, giving a list of the foods, number of times each food was prepared, menus,

[1] CLARA MAY DOWNEY. College Graduates and Restaurant Management. JOURNAL OF HOME ECONOMICS, Vol. 26 (Dec. 1934), p. 619.

number in the family, cost of food per person, and kind of fuel used, and telling the problems which she had difficulty in solving and those she could not solve. The person under whose supervison the project was carried out also makes a signed report, in which she answers such questions as: "Did the two-week period afford sufficient experience for your daughter?" "What suggestions can you give for making this project more vital?" "How often did your daughter ask for help?" "What was the nature of the advice for which she asked, e.g., direction, planning, emergency, failure?" The foods and nutrition staff analyzes the reports and uses them as a basis for future instruction.

The Home Experience Examination also follows completion of the project. Its purpose is to check the student's manipulative technique, her food standards, and her ability to apply basic food principles. However, it has also helped clarify objectives of staff members. It has shown up weak points in teaching and has led to revision of subject matter and methods.

The examination is highly objective. The student, on entering the laboratory, is given a number which is her sole identification for the judges and usually for the staff member in charge of the laboratory. She draws sheets containing three recipes, two of which must be prepared. The recipes have no directions and represent as nearly as possible the same fundamental principles and skills.

Each set of recipes carries a desk number indicating where the student will work, to eliminate any possibility of girls working side by side preparing identical products, because in such a large group it has been necessary to duplicate food combinations.

As soon as the student completes a product she submits it to the instructor in charge, together with a statement of her idea of an acceptable product. It is just as serious an error not to recognize a standard product as to turn in a substandard one. Should the student think her product not up to standard, she writes out the reason and sends it with the product to the judges. If in the judges' estimation the girl has correctly diagnosed the difficulty, she is given an opportunity to remake the product at once, or, if time does not permit, to draw for a product at another time and prepare it under observation. If she hasn't recognized her product as acceptable or substandard, her work is reported a failure.

During the preparation period the instructor in charge rates the girl on efficiency, accuracy, selection of equipment, technique, working habits, and personal appearance, and reports any gross errors in writing to the judges.

The dish is sent by messenger to another room to be scored by the staff judges. Senior students in the department serve both as laboratory assistants and as messengers, thus freeing the instructor for observation of the students' work.

The judges are changed for each examination. For instance, Miss Blank may judge products with Miss Smith during one examination; in the next, she may be in charge of the laboratory or route the products to the judges. The judges score each product independently, using the "Food Score Cards" planned by Clara M. Brown and others. If the two judges disagree, as may happen with a borderline product, it is referred to another judge, who is unaware that it has been previously scored. If two of the three pronounce it a failure, it is so reported.

When the girls taking the examination have completed the laboratory work, they immediately report for a subject-matter examination, testing general information and ability to apply underlying principles of food preparation in specific situations.

Students are rated as passing in the Home Experience Project and Examination only if they prepare the two products satis-

factorily, use acceptable laboratory techniques, and pass the subject-matter examination. Students who fail are required to take an additional course in foods, designed to meet the needs of that particular group. The percentage of girls failing varies, being much higher in the spring quarter than in any other.

The project has been invaluable in stimulating better teaching. Analysis of judges' ratings has shown the products that have most often failed and the causes of the failures. The student's own score-card rating when compared with that of the judges has indicated the girl's ability to judge food products. The objective test has revealed the type of material least well comprehended.

The foods and nutrition staff of Iowa State College feel more than repaid for the extra time invested, though they realize that the possibilities for measuring student achievement in food preparation have not been exhausted. Both students and staff now have a new appreciation of the college motto, "Science with practice."

HOME, SCHOOL, AND DEMOCRACY[1]

FREDA GERWIN WINNING

Home economics is one of the most important subjects in the curriculum for developing ideals and practices of home life and democratic education. All democracy springs from the home, from which the individual progresses naturally through the school to an ever-widening community, an ever-widening opportunity for democratic practices.

As Superintendent Bimson of Lincoln, Nebraska, has stated in "Education for Democracy and National Defense": "Pupils learn the ways of democracy through actual experience in democratic processes."

Home economics subject matter lends itself specifically to democratic procedure through the informality of group work, through opportunities for students to plan their own problems and then to proceed under their own power. It helps make better citizens of all of us through its information and practices.

Its subject matter is vital to a program of defense against the everyday enemies: disease, instability, wastefulness, unhappiness, and disappointment.

Home economics has its traditions; yet it looks ahead to tomorrow when home, school, and democracy must be stronger than ever before.

In order to learn how the present emergency has affected home economics programs in various localities, the Department of Home Economics of the National Education Association last May sent a question sheet to each of its regional directors and to members in key positions in various localities.

Although a few reported no change of plans as a result of the present emergency, nearly every negative answer carried a qualifying phrase, such as, "Not yet" or "They will this fall." Teaching and curriculum changes seemed to indicate the following major trends from Maine to California:

A new emphasis on nutrition, on good methods of food preparation, the conservation of foodstuffs, and use of surplus commodities. Every boy and girl in school is being impressed with the obligation of developing good food habits.

Expansion of Red Cross work in the home economics curriculum. One large city reported the quota for 1941–42 as 280,000 garments to be made by high school students of home economics.

Increased efforts to help families live a satisfying life on changing budgets, to make

[1] Condensed from an address delivered June 30, 1941, in Boston before the Department of Secondary Education, National Education Association.

wise use of the family income. As one report put it, "An influx of workers for defense in our state has brought acute problems of housing facilities, family adjustments, budget revisions, up as well as down, and some more intangible problems. Homemaking classes in the schools are looking for ways to use the opportunities and help deal with problems presented."

Another home economist commented that we must give renewed emphasis to "old-fashioned thrift, such as making over clothes and discarding no edible food."

More attention to training to take advantage of wage-earning opportunities, particularly those which grow out of the homemaking activities. Along with such a program there will necessarily be greater emphasis on guidance.

Greater stress on study of family relationships and home living. Home economics, it is true, has long concerned itself with the material side of family living—food, shelter, and clothing as they make for satisfying life—but has only recently added the more intangible or spiritual areas of family living to its program. Other changes in curricular emphasis mentioned in reports concerned work on government projects, recreation, first aid and home nursing, housing, and newly organized adult education courses.

Home economics teachers will certainly do whatever needs to be done in the days that are ahead. They stand ready to continue the long-time plans of its founders to make America strong in home, school, and democracy.

EDITORIAL

DOOR-KEY CHILDREN

They're called door-key children, these boys and girls who run loose on the streets at all hours of the day. They get the name from the key each wears hung on a string around the neck.

These children of working mothers are of all ages and are to be found in practically every community where there is a defense industry. Wherever they are, they present a grave problem.

In one eastern city of 4000, interested agencies recently made a canvass of the thousand homes to learn exactly what the situation was. They found only six mothers not fully employed outside the home. Into a few homes of working mothers had come a grandmother or an aunt, but in most cases the mother had no pinch hitter.

Day nurseries and other child-care agencies geared to normal times can no more handle such a situation than can a boy with a peashooter put to rout a charging bull.

COMMUNITIES AROUSED

Communities where these door-key children are found are sufficiently social-minded to want to do something about it. They see clearly that home life and family relationships must be safeguarded while America is engaged in the present titanic struggle, else more will be lost behind the lines than can be gained at the front.

For aid they are appealing primarily to three U. S. government agencies: the Office of Education, the Children's Bureau, and the Work Projects Administration. From the first two they are asking advice in organizing to meet the crisis; from the W.P.A., both advice and more nursery schools.

The W.P.A. already had some machinery for concrete aid, having set up throughout the nation around 1500 nursery schools. Though this agency has already been working for eight years with community organizations to protect the children of low-income groups, its resources have been considerably reduced since last July by the Congressional slash in W.P.A. appropriations. Personnel cuts have hit the nursery schools as well as other W.P.A. projects. A few new schools have been set up and a few more children have been taken into the old ones, but for the most part W.P.A. efforts have had to be concerned chiefly with holding fast to past gains.

JOINT PLANNING BOARD

To co-ordinate the work of the three federal agencies there has been set up a joint planning board with two representatives for each agency: for the Children's Bureau—Charles I. Schottland, assistant to the chief, and Emma O. Lundberg, child welfare consultant; for the Office of Education—Dr. John Lund, senior specialist in the education of school administrators, and Olga Jones, editor of *School Life;* for the W.P.A.—Dr. Grace Langdon, specialist in family life education, and Isabel Robinson, assistant specialist in family life education. Ex-officio members of the committee are: Katharine F. Lenroot, chief of the Children's Bureau; Bess Goodykoontz, assistant commissioner of education; and Mrs. Florence Kerr, assistant commissioner of the W.P.A. The committee gets together once a week so as to ensure an integrated program.

These agencies will impose no programs on local communities. They will act primarily as a clearinghouse to study what the various cities and towns report on their programs, how they are working, and what still needs doing. In turn, the joint planning board can give whatever information it has as to what some other city has developed and advise as to what might fit in the situation outlined.

ADVISORY COMMITTEE

Working with each agency is an advisory committee. That for the Children's Bureau is a legacy from the conference called by the Bureau last July 31 in Washington, D. C., to consider programs for day care of children of working mothers. The conference represented numerous government and nongovernment organizations, and during its sessions recommended both the organization of the tri-agency board and the setting up of three committees. The committees have since then merged into a permanent advisory committee to the Children's Bureau.

One admirable piece of organization work reported has been in Connecticut, which in the last year has been turned into a veritable arsenal. With Dr. N. S. Light, director of the bureau of supervision of the State Department of Education, as chairman, most of the state's health and social welfare organizations, both public and private, have joined forces for the job. This thoroughgoing groundwork is bright augury for accomplishments to come.

DRAMATIC EFFORTS

From other states have come reports on excellent, sometimes dramatic, programs through which communities are trying to handle the local situation.

Five different types of services are being utilized for this working-mothers emergency: nurseries, nursery schools, and nursery centers; foster day care; housekeeping service; school projects planned to keep the schools open after classes are dismissed; and community recreation programs outside the schools.

For the nurseries and nursery schools, every effort is being made to recruit and train the right kind of personnel.

For foster care of children, communities have been canvassed to find homes where there are no children but where there is a competent woman. This service has been developed chiefly by private agencies which examine homes searchingly to see if they are fitted for foster day care, and select children for those homes with equal deliberation.

HOUSEKEEPING SERVICE

The housekeeping service is no new phenomenon, though many persons have been unaware of its existence. The W.P.A. has given nation-wide and very successful service through it for more than six years. Private agencies have for some years offered it. Now various public welfare organizations are taking it up, realizing the importance of keeping the family together under the home roof wherever possible.

Example of its use is in the case of Mrs. X, who is suffering from a mental disease and has had to be sent to a hospital for an indefinite time. Rather than have the children scattered and separated from their father, a local agency hired a housekeeper to run the home.

EXCELLENT WORK DONE

Some agencies have a corps of such women employed on salary for year-round service wherever they are most needed. Cleveland is one city where unusually fine work along this line has been done.

The N.B.C. program "Raising a President," in its 11:30 (E.S.T.) Monday morning broadcast, is doing a good piece of dramatized reporting on new developments in the national defense effort as it

touches the home. This radio series is being sponsored by the Children's Bureau.

Home economists are quite naturally prominent in all the services developed to care for the children of working mothers. In communities which have as yet done nothing for these boys and girls, they can help awaken a civic sense of responsibility.

Homemakers who are home economics trained and who have some leisure time can also be invaluable aides in the projects.

America's children must not be sacrificed on the altar of national defense.

NOT YET LICKED

Tuberculosis is not yet licked.

Here in the U. S. A. it still kills off more persons between the ages of 15 and 45 than does any other disease. And this in spite of the vigorous fight led by the National Tuberculosis Association, which since 1907 has cut the annual death toll from 179 to 47 per 100,000 population.

The thirty-fifth annual Christmas seal campaign of the Association comes when national defense makes it imperative that there be no letup in the fight against this insidious disease. On the physical fitness of the people rests the nation's security. Tuberculosis must be kept out of the Army and the Navy, and also out of industry, which is equally essential to American defense. And to be kept out of industry, tuberculosis must be eliminated from the home.

WAR COMPLICATES PROBLEM

Even during normal times the fight against man's ancient enemy is no minor skirmish. Many tuberculosis spreaders elude detection. Not all persons who have the disease seek medical aid. Sometimes those who do are not correctly diagnosed. They may have spread the infection throughout the community before the first visit to a clinic. Occasionally a doctor will not report a case, under pressure from a patient who fears being stigmatized as tuberculous.

Now war further complicates the problem. Interstate migration, caused by defense activities, and inadequate housing in industrial centers of mushroom growth are bringing to public health services in many communities an extra load for which they are unprepared.

With other more dramatic appeals being made for charity, there is some danger that this year's sale of Christmas seals may not bring in the usual amount of money. Yet when times are out of joint increased funds are desperately needed if the ground already gained is to be held.

HOME ECONOMISTS HONORED

Four of America's outstanding home economists were honored at the Uni versity of Chicago's fiftieth anniversary, celeb rated September 22 to 29. They were Dr. Louis e Stanley, chief of the U. S. Bureau of Hom e Economics; Dr. Katharine Blunt, president of Connecticut College; Frances Swain, director of household arts in the Chicago public schools; and Ruth O'Brien, chief of the division of textiles and clothing of the U. S. Bureau of Home Economics.

Dr. Blunt and Dr. Stanley were the only women among the 15 recipients of bronze medals awarded on alumni day to graduates of the University for outstanding contributions in education, administration, and other fields of endeavor. Miss Swain and Dr. Stanley were given honorary Phi Beta Kappa membership at the anniversary meeting of that society. Miss O'Brien gave one of the special anniversary lectures, "Textile Research in the Interest of the Consumer"—one in a series of symposia on "New Frontiers in Education and Research."

RESEARCH

HIGH LIGHTS IN NUTRITION RESEARCH

HAZEL E. MUNSELL

IN A subject like nutrition where new findings appear so rapidly that there is little time to get fully acquainted with one newly discovered fact before we are presented with another, one of the greatest difficulties in keeping abreast of new developments is the problem of fitting the new facts into the background of knowledge that we already have. This problem is especially important in the practical application of the new knowledge. In some instances new findings may seriously modify or even flatly contradict findings previously accepted, and the extent to which they should be allowed to change existing concepts requires earnest consideration.

There are times also when findings are presented that might have practical value from one point of view but which are invalidated by other considerations. This point is illustrated by the recent reports of Dean and associates (*1*) showing the inverse relation between dental fluorosis and dental caries. Although the findings reported indicate that fluoride-containing drinking water may serve to inhibit dental caries, the relation of fluorine to mottled enamel in teeth prohibits practical use of these findings, at least until further studies have been made.

The brief résumé to be given here is based on selected reports published since January 1940 and is in no sense inclusive. It is intended merely to indicate trends in nutrition research.

MINERALS

Calcium. A tendency toward a more critical approach to the determination of standards for expressing requirements for nutritive essentials has recently developed. This is true in the case of both calcium and iron. The work of Outhouse and associates (*2*) indicates that we may need to consider a value for calcium requirement that is appreciably higher than the one that has been in vogue. A value of 0.6 gram is tentatively suggested. These investigators as well as Steggerda and Mitchell (*3*) direct attention to the variation in utilization shown by different individuals and warn of the dangers involved in the use of an average calcium-requirement value for assessing calcium undernourishment.

Iron. The change in the value used for expressing iron requirement is the reverse of that for the calcium requirement value (*4, 5, 6, 7*). Sherman (*7*) states that "... we arrive at a *general allowance* or 'dietary standard' of 12 milligrams of iron per day instead of the 15 milligrams which has been much used as a standard allowance hitherto." In discussing results obtained with college women maintained on diets containing from 3.5 to 4.5 milligrams of iron daily, Leverton (*6*) states that "There is no need for emphasis on amounts of iron exceeding 6.5 milligrams daily in the diet of normal young women; emphasis should rather be placed on liberal amounts of other dietary essentials." Anyone inter-

ested in newer developments relative to iron requirements should not fail to read the brief discussion by Sherman (*7*) of the problem of availability of iron in foods.

At this time when there is so much interest in the "enrichment" of foods, it seems appropriate to emphasize the need for giving attention to the relative as well as the absolute amounts of nutrients in the diet. Sherman (*8*) makes a brief reference to possible unfavorable influence of excessively high intakes of calcium on the assimilation of iron. A recent article in *Nature* (*9*) directs attention to the effect of additions of calcium to the diet in depressing the absorption of both iron and copper. The suggestion is made that this is no argument against the addition of calcium to the diet, as in the fortification of flour and bread, but does make it more important to combat deficiencies of iron in the diet.

Phosphorus. The fact that there is still much to learn in regard to rickets is exemplified by a recent article, one of a long series by Steenbock and associates (*10*). Data are presented to show the value of vitamin D in making the phosphorus of phytic acid available for absorption. This finding concerns the utilization of phosphorus in cereals where the larger proportion of this mineral is present as phytin and is not readily available. There is also evidence (*11*) that citrates increase the availability of phosphorus from rachitogenic diets having a high calcium-phosphorus ratio and containing appreciable quantities of phytin or other complexes from which phosphorus is not easily absorbed.

Trace elements. Trace elements (*12*), those found in small quantities in tissues, offer a fairly new topic for discussion. The importance attached to them is evidenced by the frequency with which this topic appears on programs devoted to items of special interest. The elements usually included under this term are copper, manganese, zinc, iodine, and cobalt. All are known to be essential to some form of animal life. To date, iodine and copper are the only ones definitely known to be required by man. Small quantities of several other elements, including arsenic, aluminum, rubidium, bromine, fluorine, silicon, barium, and nickel have been found in tissues; but whether they are important in nutrition is not known.

VITAMINS

The wide publicity given to vitamins in recent months leads one to wonder what the final outcome may be unless greater effort is made to focus attention on certain facts of fundamental importance. The rapidity with which knowledge of these substances has been acquired of itself gives them a glamor difficult to resist. We have come to expect the frequent announcement of a new vitamin. Nine substances may now be included in a list of vitamins known to be nutritionally essential to man. These are vitamin A; members of the vitamin-B-complex: thiamin (vitamin B_1), riboflavin (vitamin G or B_2), nicotinic acid, pyridoxine (vitamin B_6), and pantothenic acid; vitamin C (ascorbic acid); vitamin D; and vitamin K. The significance of vitamin E is still obscure. Of the new vitamins coming up it may be advisable to keep an eye on choline (fatty livers), inositol (mouse alopecia factor), p-aminobenzoic acid (anti-graying or achromotrichia factor), and vitamin H or biotin as competing for a place on the list.

All the nine vitamins known to be essential in the diet of man have been chemically identified, and many of them are available in chemically pure form through the drug trade.

Of the various phases of vitamin research the pathology of the vitamins seems to be the one under most extensive investigation at present. This is evidenced in part by the frequent reports that appear in medical literature. The identification of symptoms and abnormal physiological conditions re-

sulting from vitamin deficiencies is important for the detection of cases requiring vitamin therapy, whether the deficiency is the result of an inadequate diet or is caused by some defect of the organism leading to faulty absorption or utilization of a vitamin.

Knowledge of the physiology of the vitamins has been extended appreciably through studies made to determine vitamin requirements. Many of these studies have involved the measurement in presumably normal subjects of some condition known to be, or suspected of being, affected by a deficiency of the vitamin in question. The general plan has been to establish measurements for the normal individual with the idea of using the degree of departure of some measurement from the norm as an index of the vitamin status of an individual. The quantity of vitamin required to return a deficient individual to the normal range and maintain him within this range is then considered a basis for assessing the "requirement" of the vitamin under investigation. As regards the initial purpose, progress in these studies has been somewhat disappointing. The most significant fact noted is undoubtedly the wide variations observed not only in the measurements made on different individuals but also on the same individual at different times. As a result, studies to determine vitamin requirements are still very much in the preliminary stage.

Some of the recent research in regard to the nine essential vitamins may be summarized briefly.

In consequence of studies to determine vitamin A requirement attention has been focused anew on the effectiveness of carotene as a source of vitamin A both as regards its absorption and its conversion into vitamin A. Beta-carotene, instead of showing a value equal to that of vitamin A as would be expected on the basis of the theoretical conversion ratio of 1:1, seems to be less than one-half as effective as vitamin A. When the dietary source of vitamin A is largely from foods containing a high proportion of carotene, the vitamin A allowance should be higher than when it is from foods containing liberal amounts of vitamin A.

Vitamin B_1 pathology, in many published reports during the last four years, has been concerned with the treatment of diabetes and various forms of arthritis and neuritis. To date, the most impressive fact evolved from these studies is that the diet should contain adequate vitamin B_1 at all times. Studies also seem to indicate that measurement of the urinary excretion of certain metabolized products, as pyruvic acid, may be a better measure of vitamin B_1 status than measurement of the excretion of the vitamin itself. The quantity of pyruvic acid in the urine increases as the dietary vitamin B_1 decreases (*13*).

Symptoms of ariboflavinosis in man have been identified in the most recent findings in regard to riboflavin. Certain ocular lesions, including a specific form of keratitis, are among the early symptoms. Later, definite external lesions appear on the face and lips, especially at the base of the nose and at the corners of the mouth (cheilosis). The studies made by Sebrell and associates (*14*) and Spies and associates (*15*) furnish strong evidence for the belief that riboflavin deficiency may be much more common than has been suspected heretofore.

The chief problem with nicotinic acid has been the derivation of a completely satisfactory method for determining its quantitative occurrence in foods. This problem still remains to be solved. The latest summary of values for the nicotinic acid content of foods is the one prepared by Bacharach (*16*).

Vitamin B_6 (pyridoxine) has been added to the list of essential vitamins on the basis of the work of Spies and associates (*17*). This vitamin seems to have a definite

function in relation to the hemoglobin-forming system of human beings, although further work must be done before this can be stated definitely.

Pantothenic acid, first studied as the chick antidermatitis or filtrate factor, is one of the newer members of the vitamin B complex. This substance is also included as an essential in the diet of humans on the basis of findings reported by Spies (*18*). Definite pathological symptoms in humans using a diet low in this factor have not been described, but it may be associated with the function of riboflavin.

The most important advance in knowledge of the vitamins is probably that relative to their physiology. In a recent summary Szent-Györgyi (*19*) stresses the idea that vitamins are necessary parts of cell machinery. Several members of the vitamin B complex, for instance, are known to be components of enzymes or coenzymes that take part in the oxidation-reduction reactions within cells. Vitamin B_1 enters into the structure of the coenzyme, cocarboxylase, necessary for the activation of carboxylase which functions in the liberation of energy within cells through the breakdown of pyruvic acid, an intermediate product in carbohydrate metabolism. A helpful summary of this phase of vitamin research is given in *What Are the Vitamins?* (*20*).

In any review of current literature on vitamins one is impressed by the relatively large number of reports featuring vitamin C. The reason probably is that a fairly reliable chemical method for the determination of this vitamin has been in use for some time. Many of these recent reports have to do with the pathology or physiology of vitamin C; others are concerned with attempts to make more precise determination of vitamin C requirement. As data accumulate, it becomes more and more apparent that the vitamin C intake in cases of infectious disease should be several times the quantity considered necessary for the individual in good health. The tendency has been for the value used to express vitamin C requirement to climb upward. Whether this is fully justified remains to be seen. Studies on the vitamin C content of blood plasma indicate that this measurement may be a more satisfactory index of vitamin C status than the more familiar saturation test.

A majority of the investigations on vitamin K relate to its pathology. This vitamin is essential for the maintenance of a normal level of prothrombin in the blood, and interest has centered on the determination of its value in the treatment of hemorrhagic diseases. It is of benefit in cases of hemorrhage of the newborn and of obstructive jaundice but so far no further claims can be made for it. Activity in relation to chemical structure has probably been studied more extensively in the case of vitamin K than of any of the other vitamins. The structure may be modified somewhat without destroying the activity. The synthesis of 2 methyl-1, 4-naphthoquinone is one case where a synthetic product proved to be more active than the natural vitamin (*21*).

THE NUTRITIVE VALUE OF FOODS

The concept of variation in nutritive value of foods is one that is now accepted as a problem to be dealt with, not one to be side-stepped by the use of "average values." Evidence of the importance attached to knowledge of factors responsible for such variations is furnished by the establishment of the U. S. Regional Plant, Soil, and Nutrition Laboratory at Cornell University. Studies of the influence of cultural conditions and other factors on the nutritive value of foods have been proceeding elsewhere with varying degrees of progress, but the existence of this laboratory furnishes a center of interest for such work.

The need for complete knowledge of the

factors that influence the nutritive value of a food may be illustrated by the report of a study made by Currence (*22*) at the University of Minnesota on the vitamin C content of several varieties of tomatoes. During the past few years studies have been reported indicating differentiation in vitamin C content of tomatoes with variety. With a selection of 10 varieties Currence made plantings in such a way that all factors that might influence vitamin C content were uniform for the 10 varieties. With this arrangement it was not possible to detect any differences in the vitamin C values for these 10 varieties of tomatoes. Cultural conditions such as those for greenhouse versus field-grown plants did give differences, however. Furthermore, when arranged according to the vitamin C content of their fruit, the varieties ranked in different order under one set of conditions than they did under another set of conditions.

In considering the nutritive value of any food, it is essential to remember that a value for a given sample is the result of the many combined factors and that other samples may and probably do have other and quite different values.

This brief review does not permit discussion of the problem of loss of nutritive value in foods. Its seriousness was recently shown by Pyke (*23*) in estimates of the loss of vitamin C in cabbage from the time of harvesting to the time of consumption.

From garden to market	40 per cent
Thrown away in refuse	20 " " of remainder
Destroyed in cooking	nil
Lost in solution	65 per cent of remainder
Remaining	17 per cent of original

The ascorbic acid lost in vegetables in Great Britain in 1940 was estimated as totaling 650,000 kilograms, a quantity more than sufficient to make the diets of the inhabitants fully adequate.

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BOOKS AND PERIODICALS

NEW BOOKS

International Comparisons of Food Costs. By ROBERT MORSE WOODBURY. Montreal: International Labour Office, 1941, 83 pp., $1.

This booklet presents the results of studies made by the statistical section of the International Labour Office on the methodology of international comparisons of cost of living in order that the various interested countries and persons may have an opportunity to consider and test the methods proposed. The research group believes that they "represent a definite advance over previous methods of comparisons and that with progress in obtaining valuable results for other elements of the problem, . . . the goal of international comparisons of real wages may be brought nearer."

Organic Design in Home Furnishings. By ELIOT F. NOYES. New York: The Museum of Modern Art, 1941, 48 pp., $1.

This attractively illustrated booklet signalizes the effort of creative designers to shake off the "weary old furniture styles" inherited from the nineteenth century. It presents the furniture, fabrics, and lamps which won awards in the 1940 competition of the Department of Industrial Design, New York City Museum of Modern Art. The Museum has been fostering collaboration between designer, manufacturer, and merchant to shatter this design inertia, and so effectively that the winning designs are now on sale at 12 sponsoring stores in major cities throughout the nation.

American Cotton Handbook: A Practical Reference Book for the Entire Cotton Industry. By G. R. MERRILL, A. R. MACORMAC, and H. R. MAUERSBERGER. New York: American Cotton Handbook Co., 1941, 1024 pp., $4.80 in U.S. and Canada, $6 in other countries.

The aim of the trio of authors was to produce a concise and authentic reference work on all phases of the American cotton industry. Wherever there were subjects about which the collaborators felt someone else was better equipped to write, they drafted specialists. The section on the economic and statistical background of the cotton-growing and manufacturing business was done by Alston H. Garside, economist for the New York Cotton Exchange. Charles K. Everett, director of merchandising of the Cotton-Textile Institute, Inc., wrote the chapter on promoting and merchandising new cotton products. Professor E. R. Schwarz of the Massachusetts Institute of Technology contributed the chapter on physical testing. Other sections written by "outsiders" are those on the manufacture of cotton sewing thread and handwork cottons, weaves and designing of cotton goods, laundering of cotton materials. The book is a valuable source of information on both technical and nontechnical phases of the cotton business.

Easy-to-Make Slip Covers. By HERBERT BAST. Milwaukee: The Bruce Publishing Company, 1941, 62 pp., $2.

Because "the slip-cover fashion has slip-covered America" an instructor in upholstery at the Sheboygan Vocational School here gives simple, step-by-step directions for covering all kinds of chairs, from taking measurements to finishing. The illustrations are not only clear and helpful but suggest practical ways of getting workmanlike effects even for fairly intricate covers.

The Child: His Origin, Development, and Care. By FLORENCE BROWN SHERBON. *Second edition.* New York: McGraw-Hill Book Company, Inc., 1941, 755 pp., $3.50.

A thoroughgoing revision done in the light of the author's own teaching experience and the seven intervening years of scientific research by

others. The first chapters of the new book make for college students a more interesting approach to the subject than did the earlier text. The pages of definitions ending each chapter will also prove helpful.

The Public Health Nurse in Action. By MARGUERITE WALES. New York: The Macmillan Company, 1941, 437 pp., $2.75.

This very readable book is intended primarily for undergraduate nursing students preparing to specialize in public health work. Case histories show how nurses have applied in the field the general principles of public health nursing and how knowledge of mental hygiene has helped solve problems. It would be an informative and inspirational book to put into the hands of young women in search of a career.

The Vitamin Content of Meat. By HARRY A. WAISMAN and C. A. ELVEHJEM. Minneapolis: Burgess Publishing Co., 1941, 210 pp., $3.

A summary of the reliable information now available on the nutritive values of meat and meat products, with special emphasis on the vitamins. The authors have for some years been conducting research on vitamins in meat at the Wisconsin Agricultural Experiment Station, but this compilation includes much other material on the general nutritive value of meat and its place in the diet. The information is arranged in a way to make it easily used in connection with study courses for the national nutrition program, and the daily requirements listed are based on the allowances proposed by the committee on foods and nutrition of the National Research Council.

Nutrition in Health and Disease. By LENNA F. COOPER, EDITH M. BARBER, and HELEN S. MITCHELL. *Eighth edition.* Philadelphia: J. B. Lippincott Company, 1941, 709 pp., $3.50.

During its 13 years of use, this textbook for nutrition classes in nurses' training schools has established itself so well that a new, up-to-date edition will be widely welcomed. Besides rewriting several sections to bring them into line with the latest knowledge, the authors have added a chapter on "Recommended Dietary Allowances" based on the statement of the committee on foods and nutrition of the National Research Council.

How to Teach Children Music. By ETHELYN LENORE STINSON. New York: Harper & Brothers, 1941, 140 pp., $1.50.

Contending that all children have an "instinct for music, which is waiting to be encouraged and developed," the author shows in this book how she cultivated an appetite for music in subnormal children at the Woods Schools, Langhorne, Pennsylvania. Through the music appreciation course these "exceptional children" were given an outlet for self-expression and an avenue to acceptance by normal groups of people. The same careful steps, she declares, can gain for any child a lifelong interest in music. Teachers of music and also parents who find it difficult to interest their children in this art should find the book suggestive.

Housing and Regional Planning. By HERMAN KOBBÉ. New York: E. P. Dutton and Co., Inc., 1941, 233 pp., $3.

The author proposes an ambitious scheme for a regional development to include not only Greater New York but outlying parts of New York State, New Jersey, and Connecticut, and to provide for housing, industry, commerce, recreation, and all other elements of social life. The idea is elaborated even to details of city and country gardening, with illustrations from many countries, but the discussion seems to be based rather more on idealism than on recognition of practical difficulties.

Lady Editor: Careers for Women in Publishing. By MARJORIE SHULER, RUTH ADAMS KNIGHT, and MURIEL FULLER. New York: E. P. Dutton & Co., Inc., 1941, 288 pp., $2.

Journalism, magazines, and book publishing are the three divisions of the editing business that the three authors (each well known in the field of which she writes) here describe for the benefit of young women concerned about choosing a career. Leaders in the various lines of work within each division were interviewed, often quoted, as to what personal qualifications, training, and experience are desirable, how to get started, and what the work includes. No attempt is made to give figures for op-

portunities and salaries, but the "feel" of each field is skillfully conveyed. JOURNAL readers may wish that in the section on magazines a paragraph or two had been devoted to the non-commercial, professional magazines that seem to offer limited but increasing opportunities for women trained in some branch of natural or social science who don't care for teaching or advanced research and who do like reading, writing, and human contacts. A readable and stimulating book, and one that is itself a fine example of editorial skill.

Don't Be Afraid! How to Get Rid of Fear and Fatigue. By EDWARD SPENCER COWLES. New York: Whittlesey House, McGraw-Hill Book Company, Inc., 1941, 229 pp., $2.

"Fear claims more victims, causes more suffering, injures more family circles, costs the state and industry annually more money than cancer, tuberculosis, and syphilis together." So states the author, staff physician and psychiatrist to the Bloodgood Foundation, Johns Hopkins University, and director of the Park Avenue Hospital, New York City. The thesis of the book is that fear neuroses arise from nervous fatigue. In a book written primarily for the layman, he discusses the psychology of fear, its disastrous effects, and its cure. For illustrations he takes case histories of patients at the Body and Mind Clinic, opened in New York City in 1921 in two small rooms of the famous old church of St. Mark's in the Bouwerie and now operating in a large building of its own on East 69th Street.

Introductory Chemistry with Household Applications. By NELLIE M. NAYLOR and AMY LE VESCONTE. *Revised edition.* New York: D. Appleton-Century Company, Inc., 1941, 476 pp., $3.25.

The original edition of this book was noted in October 1933. The present one follows the same general plan, but certain passages have been revised to bring them into line with newer conceptions and applications. A list of supplementary readings has been added to each chapter.

Practical Cookery and the Etiquette and Service of the Table. By the DEPARTMENT OF FOOD ECONOMICS AND NUTRITION, DIVISION OF HOME ECONOMICS, KANSAS STATE COLLEGE OF AGRICULTURE AND APPLIED SCIENCE. *Nineteenth edition, revised.* Manhattan: Kansas State College of Agriculture and Applied Science, 1941, 506 pp., $1.35.

Practical Cookery has donned a new dress for this, its 19th edition, for the first time forsaking its traditional black for navy with a red trim. P.C., as it is called by students at Kansas State College, where it is printed, also has grown in size, its 130 added pages including new material on ranges and equipment, new tables, and expanded and up-to-date treatment of the preparation techniques for the different foods. It has been widely used both in the U. S. A. and abroad, and the new edition should give it a new lease on life and popularity.

The Escoffier Cook Book: A Guide to the Fine Art of Cookery. By A. ESCOFFIER. New York: Crown Publishers, 1941, 923 pp., $2.50.

Not for the amateur is this American edition of the great French chef's *Guide Culinaire.* It is for the experienced cook who is something of a gourmet as well. No illustrations either in black and white or in color intrude themselves. But there's glamor in the fact that here are the identical recipes used by the famous chef, and perhaps in the French names for the dishes and the French terms for techniques not easily translated by a single English word.

This Business of Carving. By BILL RHODE. New York: The Macmillan Company, 1941, 125 pp., $2.

How to Carve Meat, Game and Poultry. By M. O. CULLEN. New York: Whittlesey House, McGraw-Hill Book Company, Inc., 1941, 209 pp., $2.

Mr. Rhode is a chef and gourmet, founder of New York City's fashionable Hors d'Oeuvres, Inc. Mr. Cullen is the meat-carving expert of the National Live Stock and Meat Board, who has been used for movie shorts to demonstrate carving. Both books tell clearly and interestingly how to carve practically every meat a man would be likely to encounter, from standing rib roasts of beef and saddle of lamb to turkey and suckling pig. Mr. Cullen's book adds chapters on the conventions of carving, meat anatomy (with drawings of the wholesale cuts of meat), selecting poultry, and what makes meat tender.

ABSTRACTS

FAMILY ECONOMICS

Contributed by the staff of the Division of Family Economics, Bureau of Home Economics, United States Department of Agriculture

Rural-urban migration, C. TAEUBER. *Agr. History* **15,** No. 3 (July 1941) pp. 151–160.

In nearly all American cities the excess of births over deaths has rarely been sufficient for their population growth. Industrial growth has demanded additional man power which has been furnished by immigration from American and European rural areas. Any future growth in large cities and, in general, in small cities and suburban areas must come by migration from other areas. This is of benefit to agriculture, since technological improvements have made it impossible for agriculture to absorb additional man power. During the last decade net migration from farm areas was reduced, although there had been no similar reduction in the rates of natural increase of the farm population. There is now a trend toward decentralization of industry, but probably the need for recruiting urban workers from rural areas will continue.

The sex pattern of employment in retail outlets. *Domestic Commerce* **28,** No. 6 (Aug. 7, 1941) pp. 9–12.

Since more women are replacing men in employment in the present emergency, the sex labor pattern becomes a matter of major consideration. Women comprise one-third of the four to five million people working in the retail trade. Female employment in 1939 ran highest in millinery and lingerie shops, lowest in secondhand tire and auto accessory retail outlets. Female employment in retail outlets was lowest in the West South Central region, where only 30.5 per cent of employees were women; highest (37.7 per cent) in the East North Central division.

The construction of tables of national income, expenditure, savings and investment, J. E. MEADE and R. STONE. *Econ. J.* **51,** No. 202–203 (June–Sept. 1941) pp. 216–233.

The construction of balance-sheets of national income and expenditure clears up some of the problems of definition and provides a powerful statistical instrument for the cross-checking of various methods of estimating the national income. Furthermore, such tables make possible estimates of the national income and expenditure in the various forms most useful for the elucidation of many economic problems. If the form of tables of this kind could be generally accepted, international comparisons of national incomes would be greatly facilitated. Five suggested outlines of the fundamental tables are presented.

Consumer credit regulation and banking conditions. *Fed. Reserve Bull.* **27,** No. 9 (Sept. 1941) pp. 825–836.

Regulation W of the Board of Governors of the Federal Reserve System, authorized by the Executive Order of August 9, regulates the terms and conditions under which credit repayable in installments may be extended for purchasing or carrying consumers' durable goods, other than a residential building in its entirety. For all types of loans covered by the regulation a maximum maturity of 18 months is prescribed. Minimum down payments are required for installment sales and for loans secured by listed goods. Installment credit has been facilitating a large part of the recent growth in demand for consumers' durable goods. The present volume of consumer installment debt—about 6 billion dollars—is at an all-time peak. In the past year the country has experienced the most rapid increase in the volume of bank credit during its history. The article discusses the significance of the increase in bank loans, continued increase in bank investments, high level of bank deposits, expansion in volume of money payments, rise in deposit turnover, and recent changes in excess reserves.

Milk delivery: necessity or luxury, A. M. FREIBERG. *Harvard Bus. Rev.* **20,** No. 1 (Autumn 1941) pp. 116–123.

The author believes that the high cost of fluid milk is caused largely by government economic

regulation. He proposes abandonment of resale price maintenance of milk—the persons who can afford to might have their milk delivered daily by paying the service costs; others could get their milk over the store counter at a lower price. By their support of resale price maintenance, farmers and milk dealers are injuring themselves. The farmers are losing much of their highest priced market. The distributors of fresh fluid milk are promoting the use of canned milk, which they do not sell, at the expense of fresh milk, which they do sell; they are in effect asking to be declared a public utility.

New features of the 1940 population census, L. E. TRUESDELL; The use of sampling in the census, P. M. HAUSER; General population statistics, H. S. SHRYOCK, JR.; Employment and income statistics, A. R. ECKLER; Occupation and industry statistics, A. M. EDWARDS; The housing census of 1940, H. G. BRUNSMAN. *J. Am. Statist. Assocn.* **36,** No. 215 (Sept. 1941) pp. 361–400.

These six articles high-light important aspects of the vast number of tabulations scheduled for the 1940 census. Among the important changes incorporated in this census are: the housing inquiries, the sampling procedure, the incorporation of the questions on employment and unemployment into the main population schedule, the section on migration, the publication of reports for census tracts in 61 cities, and greatly expanded reports for metropolitan districts.

Sources and distribution of the farm population in relation to farm benefit payments, T. L. SMITH and R. W. ROBERTS. *J. Farm Econ.* **23,** No. 3 (Aug. 1941) pp. 607–618.

The rural sections of the country are a source of population for the urban areas. The aim of farm programs, therefore, should be to improve living conditions and educational facilities in rural areas. The author proposes that federal benefit payments be distributed to the states in proportion to the sizes of their farm population. These payments should be used to support essential services for the farmer rather than be paid directly to the individual. Areas benefiting from rural-urban migration should contribute to the school and health facilities of the rural regions.

Spending and savings of wage earners and clerical workers in large cities, A. HANSON and J. CORNFIELD. *Mthly. Labor Rev.* **53,** No. 1 (July 1941) pp. 50–65.

Data on the incomes, spending, and saving of families of wage earners and clerical workers from the standpoint of their importance in the total national economy are presented, based on a sample of 14,469 white and Negro families studied in 1934–36 in 42 cities (see Bureau of Labor Statistics Bulletin Nos. 636 to 641). The expenditures of the entire group of 5,500,000 families in 1934–36 constituted almost one-fourth of total national expenditures for transportation other than by automobile; one-fourth for furnishings and equipment; one-sixth for clothing, food, and personal care; and more than one-seventh of the totals for housing, medical care, and recreation. From the date of the study to 1940, total wage and salary payments have increased about 25 per cent. The largest absolute increases in expenditures were for food, clothing, and housing; the largest proportionate increases, for gifts, vocation, education, and automobile purchase. As the defense program advances, other changes will undoubtedly occur, particularly in savings.

Operations of credit unions in 1940. *Mthly. Labor Rev.* **53,** No. 2 (Aug. 1941) pp. 429–436.

The credit-union movement reached an all-time high point in 1940—9,500 credit units with membership exceeding 2,800,000; assets of over $250,000,000; and business (loans granted) rising above $300,000,000. The state credit unions accounted for 60 per cent of the members, 71 per cent of the assets, and 65 per cent of the loans made in 1940.

Guaranteed living-wage provisions of state minimum-wage orders for women, L. STITT. *Mthly. Labor Rev.* **53,** No. 3 (Sept. 1941) pp. 572–577.

State minimum-wage orders not only establish minimum-wage rates on an hourly basis but may also contain provisions to insure that the workers receive a certain weekly minimum.

Such provisions are designed to overcome the effects of irregular employment and split shifts, and to prevent deductions from wages.

Operations of consumers' cooperatives, 1940. *Mthly. Labor Rev.* **53,** No. 3 (Sept. 1941) pp. 648–655.

Wholesale and retail co-operatives increased their business substantially in 1940. At the end of the year it is estimated that there were nearly 6,000 retail associations operating stores, buying clubs, and gasoline stations or providing services of various kinds; their membership exceeded 1,600,000. Co-operative business in 1940 amounted to over $319,000,000, of which about $249,000,000 was in retail and the balance in wholesale trade.

Women's part in manufacturing for defense. *Woman Worker* **21,** No. 5 (Sept. 1941) pp. 3–4.

During the first quarter of 1941 women constituted well over one-tenth of the workers placed by the public employment services in a selected group of 26 defense industries. Nearly a third of these placements were in iron, steel, and machinery plants. In March, placements of women had increased 14 per cent over February; those in the defense industries, 13 per cent. As a result, shortages are occurring in fields such as clerical, domestic, and clothing manufacture, usually engaged in by women. Bans on married women and older workers have also been lifted.

Recent trends in women's wages and employment. *Woman Worker* **21,** No. 5 (Sept. 1941) pp. 4–6.

The number of women employed and the average hourly wage increased in the earliest months of the defense program, according to figures for 24 industries. Women's average weekly earnings advanced still more, due in part to slightly longer hours of work. In 20 of the industries the women averaged less than the $20 minimum computed as necessary for healthful living. Another disadvantage that women suffer from is irregularity of work hours.

Family expenditures for clothing: five regions, D. MONROE, M. Y. PENNELL, E. PHELPS, J. C. HOPPER, and H. HOLLINGSWORTH. *U. S. Dept. Agr. Misc. Publ.* 428 (1941) 387 pp.

This volume deals with clothing expenditures of families at different income levels in the farm communities surveyed by the Bureau of Home Economics as part of the consumer purchases study. Farm families at the income level from $1,000 to $1,249 averaged about $100 per family for clothing. About $30 was spent on the husband's wardrobe, a slightly larger amount for the wife's, and about $40 for the rest of the family, perhaps two or three children. At low-income levels husbands' expenditures generally took a larger share of the total than wives'; the reverse was true in more well-to-do households, although differences between average amounts were small. Sons and daughters in the age range from 16 to 29 spent appreciably more for dress than their parents, children of high school age less than their parents, and children of younger age groups successively less. Detailed discussion of use of clothing funds—garments bought and prices paid—by each of 11 groups of family members is presented in the form of a budget for each sex-age group.

Statistics of farmers' marketing and purchasing cooperatives, 1939–40 marketing season, R. H. ELSWORTH. *U. S. Dept. Agr., Farm Credit Adm. Misc. Rept.* No. 34 (Feb. 1941) 33 pp.

This is the sixteenth survey of farm co-operatives made by the group included at present in the Cooperative Research and Service Division of the Farm Credit Administration. The most significant current trend is the steady increase in co-operative purchasing associations from 111 in 1913 to 2,649 in 1939–40. Statistics are given on the number, membership, and estimated business of marketing and purchasing co-operatives by years, by states, and by commodity groups.

M. Y. P.

FOOD UTILIZATION

Contributed by the staff of the Food Utilization Section, Bureau of Home Economics, United States Department of Agriculture

Correlation of subjective scoring with sugar content of frozen peas, E. L. BLANCHARD and M. L. MAXWELL. *Food Research* **6,** No. 2 (March–April 1941) pp. 105–115.

The development of a score card for judging cooked frozen peas is given in detail. The results from the use of the score cards were compared with an objective test—the sugar content—that has been proposed as indicative of maturity and edible quality of peas. The coefficients of correlation 0.73 and 0.74 between sugar content and the subjective scores obtained on two groups of peas indicate that the score card and the sugar content are equally related to maturity. Variation in trend in the sugar content and in scores on successive days of picking indicated that the edible quality of frozen peas may be affected by changes in the freezing procedure as well as by maturity.—E. H. D.

A study of the sensitiveness of prospective food judges to the primary tastes, D. KNOWLES and P. E. JOHNSON. *Food Research* **6,** No. 2 (March–April 1941) pp. 207–216.

Preliminary to selecting a panel of judges to determine subjectively the palatability of various fruits and vegetables frozen under different conditions, 37 persons were tested for sensitivity to the primary tastes. Test solutions of chemically pure sodium chloride, sucrose, tartaric acid, glutamic acid, and caffeine were used to represent the four primary tastes. Five of the 37 were rated excellent, four good, and three fair. These results show the necessity for testing the tasting ability of individuals before selecting them as judges.—E. H. D.

Effect of metal skewers on cooking time and tenderness of beef, S. COVER. *Food Research* **6,** No. 3 (May–June 1941) pp. 233–238.

In this investigation conducted at the Texas Agricultural Experiment Station, pairs of round, arm-bone chuck, and standing rib roasts of beef were cooked well done (80°C.) at the same oven temperature (125°C.), one of each pair with and the other without skewers. The skewers shortened the cooking time but increased the toughness of the meat.—L. M. A.

Collagen determination in cooked meat, E. F. BELL, A. F. MORGAN, and A. DORMAN. *Food Research* **6,** No. 3 (May–June 1941) pp. 245–263.

The chemical method for the determination of collagen in raw meat was modified and applied to raw and cooked samples of beef, shoulder fillet, rump, and sirloin butt. In 23 experiments in which the technique was considered satisfactory, 22 per cent of the collagen nitrogen was lost during cooking. The loss of collagen, presumably through hydrolysis to gelatin during cooking, increased progressively with increased length of cooking, either by boiling or baking. The reduction in collagen produced by baking was 26 per cent in unskewered roasts and 18 per cent in skewered roasts. Since the skewered roasts cooked more quickly than those without skewers there was an indication that the hydrolysis of collagen to gelatin is dependent on time as well as temperature. The authors concluded that the collagen content of both raw and cooked meat may be determined by the method suggested and that the loss of collagen of cooked meat may be useful as a measure of the tendering effect of cooking.—L. A. R.

Stability of homogenized milk in cookery practice, H. HOLLENDER and K. G. WECKEL. *Food Research* **6,** No. 4 (July–Aug. 1941) pp. 335–343.

The use of homogenized milk and unhomogenized milk in the preparation of escalloped potatoes, cooked oatmeal, cereals, and egg custards was studied. It was found that with every variety of potato used, the homogenized milk coagulated sooner than the unhomogenized. The data on the influence of added salts show that while one salt may stabilize the milk when one variety of potato is used, the same salt may have a destabilizing effect when another variety of potato is used. With

cooked oatmeal and cereals the stability of homogenized milk was definitely less than that of unhomogenized milk. The curd tension of egg custard prepared from homogenized milk was lower and the serum separation greater than when unhomogenized milk was used.—E. H. D.

Color retention in fruit products, M. A. JOSLYN. *Ind. & Eng. Chem.* **33,** No. 3 (March 1941) pp. 308–314.

Fading, browning, and discoloration of fruit products are of importance not only psychologically but also physiologically. A survey is here given of present knowledge as to discoloration. The natural plant pigments may change color during preparation, processing, or storage of fruit products. Browning may be due to the formation of pigmented substances by decomposition of certain chemical constituents, by reaction between some constituents of the fruit tissues with oxygen of the air, or by reaction between constituents present or introduced in manufacture. Nonoxidative discoloration may be due to the formation of tin sulfide in canned fruits, or to decomposition of carbohydrates with the formation of colored products. Oxidative discoloration may be catalyzed by enzymes or it may be autocatalytic. Browning of dried fruits such as apricots may occur even in vacuum-packed containers, aided by peroxides and by oxygen retained in the fruit itself. The oxidation of citrus juices and the role of ascorbic acid, sulfur dioxide, and other factors in browning of juices are discussed. Browning involves a loss of vitamin C content, perhaps by destruction while acting as an antioxidant. Sulfur dioxide acts in citrus juices not only as an antioxidant but also as a preservative of vitamin C and color.—E. H. D.

Some notes on the keeping quality of fats in baked goods, R. H. MCKINNEY and A. E. BAILEY. *Oil & Soap* **18,** No. 7 (July 1941) pp. 147–148.

Data were presented to show that the practice of evaluating fats for baking purposes by tests in which oxidation is accelerated by heat is not indicative of their true stability in baked products stored under normal conditions. This was particularly true in the case of hydrogenated lard. Unleavened biscuits incubated at 98°F. kept equally well whether made with hydrogenated lard or hydrogenated vegetable oil, although at 120°F. the hydrogenated lard was greatly inferior. The addition of sugar increased five or six times the stability of the same type of biscuit made with oleo oil, hydrogenated lard, or hydrogenated vegetable oil but had little effect on the keeping quality of biscuits made with prime steam lard. Lecithin was effective as an antioxidant in oleo oil itself but lost practically all its effect in baking.—L. A. R.

Relationships between certain physical measurements upon fresh and stored eggs and their behavior in the preparation and baking of cake, W. E. PYKE and G. JOHNSON. *Poultry Science* **20,** No. 2 (March 1941) pp. 125–138.

In this study the following quality measurements were made on individual eggs: percentage of the initial weight, height of firm white, and yolk index. The mixed eggs were used in the preparation of cakes. The volume and tensile strength of the cakes are related positively and to a highly significant degree to the quality of the eggs from which they were made. Length of storage period, percentage of initial weight of the eggs, height of firm white, and yolk index are all measures which may serve as an indicator of egg quality when these eggs are to be used in preparation of cake. Length of storage period is negatively correlated with the cake quality measures of volume and tensile strength, while the balance of these measures of egg quality are positively correlated. The eggs of individual hens differ significantly in their ability to yield high volume and tensile strength in cakes. The ability of eggs of certain individual hens to yield cakes of significantly greater volume when fresh persists also throughout the storage period. Conversely, certain individual hens produce eggs which yield cakes of significantly smaller volume and tensile strength than the average. A method which may be used in estimating the relative quality properties of eggs by means of cake-baking tests has been developed.—E. F. W.

HOUSING

Housewife test proves economy of insulation. *Air Conditioning & Oil Heating* **14,** No. 9 (Sept. 1941) pp. 22–24.

Full-thick, mineral-wool insulation was found in a recent test in Long Island to bring an average fuel saving of $4.40 a month to one home. The test was conducted by two housewives in homes that were identical except for the insulation in one. Heat in both was from an oil-fired, one-pipe steam heating system, using the same brand and grade of oil. Temperature was maintained at 70°F. Oil wastage in the uninsulated house averaged more than 22 per cent a month.

Iowa college tests show how to burn oil efficiently. *Air Conditioning & Oil Heating* **14,** No. 10 (Oct. 1941) pp. 26–27.

In a 32-page booklet Iowa State College reports on 18 months of experimentation with pressure-type oil burners. The greatest cause of waste comes from the fallacious belief that increasing the amount of air introduced into the burner increases the economy of operation. The opposite was found to be true. Reducing excess air caused a higher combustion-chamber temperature and a lower stack temperature, which increased efficiency. The oil-designed boiler proved more economical to operate than the general-purpose conversion boiler tested. However, the efficiency of the conversion boiler was substantially increased by baffling its large flue passages. Further efficiency of fuel air was obtained by using the smallest nozzle able to deliver the required output. An additional three to five per cent saving of oil was made when combustion chambers were constructed of insulating rather than of standard firebrick.

Site planning for livability, E. PEETS. *Am. City* **56,** No. 10 (Oct. 1941) pp. 35–37, 83.

In large-scale housing projects site planning raises many problems. The super-block pattern is often used, with access to the buildings by way of cul-de-sacs and narrow service lanes. In a well-built housing project, with selected tenants, an alert manager, constant social guidance, and high-standard maintenance, this pattern is economical and efficient—besides being the best way to protect children against traffic accidents. For greater safety, site planners use secondary streets for access from the super-block to the main traffic street. Fronting houses on streets is usually avoided. Ample space is available around the buildings for sitting-out places, paved laundry-drying yards, a central playground, and playgrounds for children. Usually near the playground is the community building with offices of the management, maintenance shops, and social rooms, where tenants can gather for parties, lectures, club meetings, and cooking demonstrations. A nursery school and indoor recreation rooms are usually provided for. Site planners need the co-operation of city planners concerned with master plans, subdivision codes, and zoning ordinances.

Rural house design boosted. *Architectural Forum* **75,** No. 2 (Aug. 1941) p. 138.

Plans for 8 houses are now being publicized by the National Homes Foundation in the hope of improving rural home designs. N.H.F. is a nonprofit co-operative group organized at the request of the U. S. Central Housing Committee, with members among the building trades. It selected the 8 plans from several hundred submitted by the U. S. Department of Agriculture, state agricultural colleges, and representatives of the building trades.

Housing cycle. *Bus. Week* No. 624 (Aug. 16, 1941) pp. 42–46.

Streamlined construction methods and prefabricated, demountable houses are getting a boost from the present defense situation. The Division of Defense Housing Coordination has three developments of special interest under way at Dallas, Texas, and in Camden and Clark Townships, New Jersey. The government furnishes initial capital and builds the houses to be leased to families who then become stockholders in a mutual housing corporation and pay off their obligations with small monthly payments equivalent to rent. Prefabrication methods hold costs below $3,000 per unit. At Indian Head, Maryland, 650 prefabricated houses are being put up. A test showed that

they can be taken apart, hauled on a four-hour journey to a new location, and reassembled in 8½ hours. The net loss in materials not reusable after the $2,950 house was moved was about $150. The T.V.A. is building 150 demountable houses at Muscle Shoals, Alabama. The houses are built in sections, each being a complete unit of the building, with floors, walls, ceiling, and roof. Fixed in their appropriate places as integral parts of a unit are the electric wiring, plumbing, windows, screens, doors, and kitchen cabinets. The framework is wood, and the exterior sheathing is wallboard of a repulped newspaper mixture which is made fire- and moisture-proof. Using the same system a private builder is putting up 300 houses in west Tennessee. The new site-assembly process was used for the 538-family U. S. Housing Authority project in Newport, Rhode Island. Whole roofs, complete with shingles, were built on the ground and swung into place with cranes. Siding was nailed on and windows were installed before the walls were raised into place. Steel will be too scarce for use in such housing projects, and concrete is too heavy when demountability and portability features are considered.

Six houses a day. *Bus. Week* No. 628 (Sept. 13, 1941) pp. 65–66.

At Middle River, Maryland, the Glenn L. Martin Company is building for its airplane workers 600 prefabricated houses, each costing $2,000, at the rate of 6 a day. They are in the main copied from the experimental house built by the John B. Pierce Foundation at Lebanon, New Jersey. The houses, consisting of 4 rooms and bath, are "skeleton frame and curtain wall"; and as such, they meet the ancient complaint of engineers against the use of cumbersome and costly walls as weight carriers. The walls are single thicknesses of a wall board made of sugar-cane fiber, finished on both sides with asbestos cement. Edges of the board are sealed with a wax. The 24-foot wooden trusses carry the full weight of the roof. For partitions a thin wall board is used. A special roofing board (new to housing) consisting of cores impregnated with asphalt and covered with mineral-surfaced asphalt roofing combines in one piece the sheathing, insulation, and roofing. The house rests on concrete reinforced beams on concrete piers. It is heated by means of a pot-type, oil-burning heater. The flue is porcelain-enameled steel. The houses are equipped with refrigerators, electric stoves, and Venetian blinds for the fixed, plate glass "picture windows."

Whither residential construction? *Fed. Home Loan Bank Rev.* **7,** No. 11 (Aug. 1941) pp. 363–366.

Until now the defense program has acted as a stimulus to residential building by virtue of higher consumer incomes and special housing needs in defense localities. Supply difficulties and priority ratings for certain building materials are new problems that must be faced. Armament needs are in direct competition for some materials used in residential building. No serious stringencies are reported in the delivery of lumber and bricks, but metals, such as copper, zinc, galvanized iron, and steel, used for heating and plumbing are scarce. The building industry may have to adjust itself to emergency conditions by the adoption of simple designs, new types of materials and new building methods, and further concentration on low-priced homes. Radical changes in local building codes, labor practices, and construction standards set by home-mortgage lenders are necessary, but satisfactory adjustment to them will depend on the consumer's acceptance of new standards. Eventually the following basic metals will be eliminated from home construction: aluminum, brass, bronze, copper, chromium, zinc, and all types of metal alloys. In order to save steel and iron, first-floor circulating heaters may be used instead of cellar furnaces. Stall showers in place of bathtubs are suggested. Installation of storm windows and doors instead of customary weather stripping would help to conserve the scant supply of zinc. The use of plastics instead of war-essential metals is recommended for hardware, such as doorknobs and drawer pulls. Research, such as that done by the U. S. Bureau of Standards, and modernization of building regulations will help to produce economies in the use of defense materials.

Efficacy of window shades as heat barriers investigated by Armour Foundation. *Heating & Ventilating* **38,** No. 7 (July 1941) p. 30.

Tests made by the Armour Research Foundation show that a single cloth shade fully drawn over each window of a room during the hours that it is exposed to the summer sun will reduce heat intake by an average of 45 per cent, and that a pair of cloth shades will reduce the intake by 65 per cent. Under winter conditions a single shade fully drawn reduced the heat loss through the window 40 per cent, while a pair of cloth shades of the same type reduced the heat loss about 54 per cent. Keeping heat in during winter conditions appears to be affected by the type of cloth used but not by the color. Because of the air space between the shade and the window, good fit of the shades is important. In summer the reduction of the heat intake was greater when light-colored shades were used.

Effects of crowded housing upon health, R. H. Britten. *Labor Information Bull.* **8,** No. 7 (July 1941) pp. 5–6.

The serious dangers to health associated with overcrowding were revealed by the National Health Survey through a house-to-house canvass of approximately 2,500,000 white persons living in 83 cities of the United States. Data were examined on diseases likely to be related to housing, among them pneumonia, influenza, rheumatism, and the communicable diseases of childhood. In practically every instance it was found that these diseases struck with greater frequency families living in crowded quarters than those living in relatively uncongested houses. Although the precise effect of housing conditions on health cannot be determined apart from the effects of such factors as poor diet and lack of medical care, the survey established broad connection between housing and health. For instance, disabling digestive diseases are substantially more frequent in households without private inside flush toilets, and the number of serious home accidents rises as rental values of dwellings decline. Accidents are more likely to occur where rooms are dark, ill-ventilated, and ill-heated and where fire hazards are great.

Built for heating research. *Natl. Real Estate J.* **42,** No. 7 (July 1941) pp. 28–29.

At the University of Illinois the Institute of Boiler and Radiator Manufacturers has sponsored the building of a house known as the I-B-R Research House to be used for home-heating studies. The house is a typical six-room, brick-veneer building in the medium-price class. The walls are insulated with 3½ inches of mineral wool protected on the inside with a vapor barrier of glazed asphalt paper. Rock lath makes the plaster base, and wood sheathing also was used, covered with a 15-pound building paper. For the present test a one-pipe, forced circulation, hot-water system with an oil-burning boiler has been used. Findings thus far are as follows: (1) The cost of heating this six-room house for an average heating season in Champaign is $69. (2) Temperature variation can be held to less than a degree. (3) The difference in temperature between the air in the rooms and the inside surface of the walls is negligible even at severe outside temperatures. (4) Rock wool is the most important factor in resisting flow of heat through the wall, proving the equivalent of 46 inches of brick.

Saving fuel. *Natl. Real Estate J.* **42,** No. 9 (Sept. 1941) p. 30.

Accurate control of temperature is necessary if fuel is to be conserved in a heating plant. For each degree that the temperature is maintained over 70°F. the fuel cost goes up approximately 3 per cent, says the Plumbing and Heating Industries Bureau. Fuel goes down about 2 per cent for every degree under 70. Even hand-fired boilers and furnaces can be equipped with thermostats which will automatically open and shut the dampers and drafts in accordance with the heat requirements of the rooms. Substantial economies in fuel consumption can be obtained by maintaining lower temperatures in the house during the night. Fuel savings of 15.8 per cent were shown in a month-long survey, with a day temperature of 70°F. and a night temperature of 60°F. Bad locations for a thermostat are: near an outside door where cold blasts of air hit it, at the foot of a stairway where cold air

spills down, and on an outside wall. To be guarded against are too much draft in the heater and leaks around the fire door.

Hot water temperatures. *Natl. Real Estate J.* **42,** No. 9 (Sept. 1941) p. 30.

Hot-water corrodes metal more rapidly than does cold water, the rate of corrosion more than doubling with each 40-degree rise in temperature. Hence a hot-water heating tank and system will show double the rate of corrosion if operated at 180°F. instead of the recommended 140°F., according to the American Iron and Steel Institute. The Institute recommends the proper thermostatic controls for all hot-water heating plants of both direct and indirect type to prevent excessive temperatures. Soft waters with acid reactions such as are found in the extreme eastern and northeastern part of the country are quite corrosive to both ferrous and nonferrous metals. The harder and more alkaline waters found in the Great Lakes region and the Mississippi Valley are generally classed as non-corrosive.

Parkchester: middle-class houses, E. BEIGEL. *New Republic* **105,** No. 13 (Sept. 29, 1941) pp. 400–402.

The middle classes need more housing developments like the Parkchester, New York City, the fifty-million-dollar group of apartment houses built and operated by the Metropolitan Life Insurance Company. When completed this year, 42,000 people will have their homes there. Parkchester is not a "model" town but (1) a mass construction outlet for private investment of idle money, (2) a low-cost housing project, and (3) the largest planned residential community on record. Only one-fourth of the 129 acres is covered with the 58 scattered buildings, which is double the standard set by most town planners for a land-building ratio in a restricted urban area. Another quarter is in streets and parkways, and the rest has been landscaped into lawns and play areas, with thousands of trees but little expensive shrubbery. Inside the quadrants there are no through streets. Entrances into the parking areas are narrow and winding to discourage speeding traffic. Five ramp garages will accommodate 4,000 cars. Also in the plans are: a 2,000-seat theater, a central heating plant consisting of four oil-burning boilers, and 200 stores built into the first floors of the buildings. The average monthly rent per room is $13, whereas that in New York's government housing runs from about $7 to $9 per room. Parkchester's planners, however, declare that they have bigger rooms and more extensive landscaping than does the average U. S. Housing Authority project. There is nothing radical in the interior design of the apartments; but the step-saving, semicircular kitchens are excellently planned, and the bedrooms are cross-ventilated. The design of the buildings centers around five wing plans and three core plans containing the service elements —stair wells, elevator shafts, public corridors, incinerators, and slop sinks. Mass purchasing kept down costs; other reductions resulted from identical bathrooms, three standardized kitchen patterns, omission of dining rooms, minimum of corridor space, and conversion of basements into terrace apartments. A damper for each radiator concealed in the wall is the tenant's only heat control. Fiber-glass insulation of all exterior walls reduced the capacity of the heating plant and, like most of Parkchester, will more than pay for itself. The community has already shown a strong in-group feeling that has emerged in 40 social and athletic groups, a symphony orchestra, and two self-supporting newspapers. The Metropolitan Life Insurance Company has announced construction of two 2,600-unit, two-story apartment buildings in Los Angeles and San Francisco next year.

M. C. H.

MISCELLANY

Vitamin Chart. The 1941–42 revision of the Weston-Levine Vitamin Chart completely rewritten is now available at 10 cents a copy or reduced rates for quantity orders. It may be purchased from the author, Dr. Roe E. Remington, professor of nutrition, Medical College of the State of South Carolina, Charleston.

More Classroom Material: Foreign Cookery in the U. S. The home economics teacher who is looking for some way to do her bit in "making democracy work" through an attack on intolerance of groups of different national origins will find a keen weapon in a series of booklets on foreign cookery. They are: "Mexican Cooking and Its Influence in the United States," "German Cooking and Its Influence in the United States," "Italian Cookery and Home Customs," "Armenian Cooking in the United States," and "Japanese Fashion in Dress and Cooking." In September we directed readers' attention to another of the series, "Scandinavian Cooking and Food Habits." Each mimeographed booklet makes excellent suggestions as to ways to work the material into a course, through lessons on marketing, on salad preparation, on foreign cookery. Such "units" in a course should certainly bring an increased appreciation of the contribution each national group has made to American culture. The booklets may be ordered from the Service Bureau for Intercultural Education, 221 West 57th Street, New York City.

Your Own Consumer Exhibit. How to make your own consumer exhibit at little cost, how to "spread your news and views" via consumer bulletin boards, how to build your own information center and plan your own consumer conference—these are effectively shown in the May 15, 1941, issue of *Consumers' Guide*, published by the U. S. Department of Agriculture, Washington, D. C. A practical and helpful guide.

Consumer Education Bibliography. Ten cents sent to the Superintendent of Documents, Washington, D. C., will buy an up-to-date bibliography of "Materials for Consumer Education," Consumers' Counsel Series, Publication No. 10.

Why Kindergartens? Arguments for starting a kindergarten in a public school, steps in getting one, suggestions for promoting good state legislation for child education, a list of kindergarten equipment, a discussion of the preparation desirable for a kindergarten teacher. These are contained in a portfolio of 12 four-page leaflets prepared by the Association for Childhood Education, 1201 Sixteenth Street, N.W., Washington, D. C., for sale at 25 cents. A "Bibliography of Books for Young Children," July 1941 edition, is also available for 50 cents. The Association's "Independent Work Periods" (35 cents) describes "purposeful activities" which broaden interests, expand child potentialities, develop "good attitudes toward work, toward himself as a worker, and toward others as workers."

Group Health Plans and Propaganda. The Selective Service figures on the proportion of young men unfit for military service have inspired a fresh barrage of propaganda from medical organizations. Volume 4, No. 11, of *Propaganda Analysis* discusses the propaganda struggle being waged over the future of medical care, and incidentally gives the history of the group health movement. It also takes up the work of the American Association for Social Security, leading advocate of compulsory government-aided health insurance in the lower-income brackets.

Design for Defense. Four well-known writers have contributed papers on four aspects of the defense program for "Design for Defense," a 40-page 50-cent booklet published by the American Council on Public Affairs, 2153 Florida Avenue, Washington, D. C. The collection would make good material for forums or adult education groups. Max Lerner, professor of political science at Williams College, opens the booklet with a discussion on "Public Opinion." He warns that what we have today is a conflict within each individual between the

potential appeaser-fascist and the potential democrat. He takes up one by one current specious arguments and their basic fallacies.

Walter Rautenstrauch, professor of industrial engineering at Columbia University, follows with a discussion of "Technology." He points out that the attainment of the immediate defense objectives must be paralleled by the building of a sound economy based on economic and social justice. He discusses the basic postulates on which the organization and management of the national plant should be considered, in the hope that "we may . . . avoid the course which is bringing the once powerful nations . . . to utter ruin and collapse."

Adolf A. Berle, Jr., assistant secretary of state, then discusses "Diplomacy," particularly that in the three Americas. John D. Black, professor of economics at Harvard University, concludes the booklet with a paper on "Agriculture" in which he declares that "We can organize and execute an armament program beyond anything the world has ever seen in any country and still produce for our civilian needs. But . . . not . . . if . . . industrial management, capital, labor, and agriculture successfully resist any modification of their traditional attitudes and platitudes."

Retail Publicity Jobs for Women. The Institute of Women's Professional Relations, whose research headquarters is Connecticut College, New London, has published recently information as to jobs for women in advertising, selling, and merchandising. Vol. 12, No. 2, of their newsletter *Women's Work and Education* carries an article on openings for women in publicity divisions of retail department and specialty stores; one on advertising, selling, and merchandising in general; and one on opportunities for women in cosmetic advertising.

Young Women and the Dress Industry. "Employment in the dress industry should stand up well, at least for the next year or two, but when the rush seasons and layoffs set in the average dress worker may well ask herself, 'Little girl, what now?' " So reads an article on "Clothes Make the Woman" in the September issue of *Vocational Trends*, a publication of Science Research Associates, 1700 Prairie Avenue, Chicago. The dressmaking industry, the definite advantages it offers as a field of work for young women, and the disadvantages are discussed.

Cookery as a Career. Qualifications desirable in both men and women for success in cookery, opportunities in the field, its drawbacks and its advantages, a list of training schools of cookery with length and cost of course—all these are outlined in a 50-cent 18-page monograph entitled "Cooking" and published by the Bellman Publishing Company, Inc., 6 Park Street, Boston. It is No. 15 in a series of Vocational and Professional Monographs, and was written by Alice Bradley, principal of Miss Farmer's School of Cookery.

Wholesale Prices and Cost of Living. Persons groaning over rising costs in living may get comfort from glancing through the July issue of the League of Nations' *Monthly Bulletin of Statistics*, Vol. 22, No. 7. Graphs on a logarithmic scale show at a glance both the movement of wholesale prices and the cost of living throughout the world in 1939, 1940, and up to July of 1941. Most tragic of all in its significance is the graph for China, where the two lines soar well above the 400 mark. The two lines for Great Britain run around 150 for the wholesale prices and 127 for cost of living; for the U. S. A., around 117 and 104, respectively. Tables elsewhere in the slender publication show such things as indexes of employment, public debt, bank deposits, prices of primary commodities. The 30-page leaflet may be obtained from the Columbia University Press, 2960 Broadway, New York City, for 45 cents.

Schools and Defense. The U. S. Office of Education has two new pamphlets in its Education and National Defense Series of interest to teachers: "What the Schools Can Do," Pamphlet No. 4, and "Home Nursing Courses in High Schools," Pamphlet No. 9. The first points out services that can be strengthened to serve defense needs—from health, physical education, and citizenship to international relations. The second takes up instruction in home hygiene and care of the ill and injured.

Country Schools Disappear. Seven thousand small and ill-equipped one-teacher schools disappeared from the American scene this fall, according to a September statement by John W. Studebaker, U. S. Commissioner of Education. Four such schools usually were merged into one modern consolidated school building. Though enrollment figures were not then available the U. S. Office of Education expected the total of school children for 1941–42 to be 31,566,000.

Guidance Library. A 25-cent bibliography of the "Sixty-six Best Books on Occupational Information and Guidance," arranged in suggested order of purchase for the average public school library, is now on the market. The authors: Professor Robert Hoppock of New York University and Samuel Spiegler, managing editor of *Occupational Index*. The publishers: Occupational Index, Inc., New York University, New York City.

Better Business Bureau "Facts." We hasten to correct a mistake in the miscellany note "Consumer Purchasing Aids" on page 504 of the September JOURNAL. One copy of either of the booklets mentioned ("Domestic Textile Rugs" and "Investment Companys") may be obtained free, but otherwise the booklets in the series are not available for free distribution. The price for the two in question is five cents a copy. A price list for the entire series may be obtained on request from the National Better Business Bureau, Chrysler Building, New York City.

Women and Shortages. The September 1 issue of *Sales Management* reports a survey which it, together with Ross Federal (a market research agency), made in mid-August of what 1,000 representative middle-class women in 20 cities thought about possible shortages of household products. Most of the women appeared resigned to shortages in the household commodities about whose lack newspapers had been warning. Sixty-three per cent of those interviewed did not feel justified in buying all they could get now; less than 20 per cent had begun hoarding, even of stockings or canned foods; 75 per cent thought that the government should ration short products on an equitable basis. Forty-eight per cent reported that they were then paying for articles purchased on the installment plan.

Home Management in Low-Cost Housing. Myths like the coal-in-the-bathtub story of a low-income family transferred from a slum home to a public housing project were challenged in a September release by Nathan Straus, U. S. Housing Authority administrator. He cited low maintenance cost of such buildings through tenants' taking over upkeep of building and grounds; the classes organized to teach care of property, homemaking, furniture repair, gardening; tenants' pride in their new homes.

Pictures for Publicity. "Photographs and How to Use Them," a beautifully illustrated booklet by Dr. David Turteltaub, shows graphically the do's and dont's of pictorial publicity for social services. It is written from the point of view of the psychologist as well as the artist and ends with a list of helpful books and magazines on photography. It is sold for $1 a copy by the Social Work Publicity Council, 130 East 22d Street, New York City.

Community Activities in Public Housing. This is the title of a 20-page booklet issued by the U. S. Housing Authority, Washington, D. C. It reviews experiences in P.W.A. Housing Division projects with the following activities: resident councils and tenant associations, resident newspapers, preschool and parent education, health and safety, consumer services, mutual benefit organizations, library and reading rooms, and recreation. Copies may be obtained free of charge on request from the Informational Service Division, U. S. Housing Authority, Washington, D. C.

Meat Buying Manual for Teacher, Student, Homemaker. This 24-page, 5-cent booklet published by the National Live Stock and Meat Board, 407 South Dearborn Street, Chicago, is a clear presentation of material, organized so as to make instruction as to cuts and their treatment easy.

NEWS NOTES

GENERAL

Dr. Daniels—Farmer. Dr. Amy L. Daniels, who until her retirement last summer was in the Child Welfare Research Station at Iowa City, is now living in Connecticut, about 11 miles from New Haven. She and her sister have bought a new house on the highway between Smith and Yale, and her address is College Highway, Avon, Connecticut. She has christened her new home "Hope Farm" and plans to raise garden stuff and chickens on its half acre. Dr. Daniels has taught in the Universities of Missouri and Wisconsin as well as that of Iowa, and was winner of the 1937 Borden award for research on the relation of ingestion of milk to calcium metabolism in children.

American Association of Junior Colleges. Los Angeles, California, and February 26 to 28 are the place and date of the next annual meeting of the A.A.J.C., announces Walter C. Eells, its executive secretary. Emphasis at the three-day conclave will be on "defense in its relation to education and on terminal education activities."

Dr. Mitchell Meets with the Nutrition Councils. Dr. Helen S. Mitchell, principal nutritionist in the Office of Defense Health and Welfare Services, Federal Security Agency, has been away from Washington most of the fall visiting nutrition councils throughout the country. Her trip from September 26 to October 7 took her to Chicago, Denver, San Francisco, Los Angeles, and San Antonio. On that from October 18 to November 23 she was scheduled to speak at St. Louis, Minneapolis, St. Paul, Brookings, Bozeman, Helena, Pullman, Moscow, Seattle, Portland, Corvallis, Berkeley, Los Angeles, Reno, Salt Lake City, Denver, and Laramie.

The Field Secretary's Fall Trip. Gladys Wyckoff left Washington on September 25 for a six weeks' field trip which took her to Indiana, Illinois, Iowa, Nebraska, Wyoming, Colorado, Utah, Idaho, Oregon, Washington, Montana, South Dakota, North Dakota, Minnesota, and Wisconsin.

NEW JERSEY

New Jersey Home Economics Association. The members passed the goal of $1500 by $93.20 in their drive for a mobile kitchen for Britain. After being informed by authorities in England that, while no more kitchens are needed at present, funds would be welcome for maintenance of present kitchens, the executive council voted to use the money raised to maintain a mobile kitchen for a year and a half. The Association also has purchased a $500 defense bond.

The Association planned a stimulating program for its meeting in the St. Denis Room of the Hotel Dennis in Atlantic City on the morning of November 8. A buffet luncheon in the Ozone Room of the Hotel followed the meeting.

Three refresher courses in nutrition for all home economics teachers who wish to attend are being given this fall in northern, central, and southern New Jersey by teachers from Columbia University, New Jersey College for Women, and Drexel Institute, respectively. Each course consists of six meetings.

North Jersey Section. The section held a dinner meeting in Chatham on October 6. Speakers were Arthur Fletcher, editor of publications for the Newark Board of Education, whose topic was "The Newark School Plan for Defense," and Edwin Reed, assistant cartographic engineer of the New Jersey Agricultural Adjustment Administration, who discussed "Food for Freedom." He also showed a movie "Farmers and Defense."

NEW YORK

New York Home Economics Association. The Association's annual meeting is scheduled for April 24 and 25, 1942, at the Hotel Penn-

sylvania, New York City, with Doris H. Tisdale, president of the Greater New York southeastern district, as chairman. Lucy M. Maltby of Corning is the Association's new president.

State registrations for the Home Economics Emergency Service Directory totaled 1,973 in mid-October, according to Edith H. MacArthur, vice-president of the Association, and registrations are continuing to come in from the vice-presidents of the six districts. Duplicates of the registration cards are given to local defense councils in accordance with the Association's plan to support the program of the New York State Council for Defense, particularly the division of volunteer participation headed by Mrs. Winthrop Pennock.

Cornell University. Sarah Gibson Blanding, the new director of the New York State College of Home Economics at Cornell, assumed office in July. Formerly dean of women and associate professor of political science at the University of Kentucky and president of the National Association of Deans of Women during 1939–41, Miss Blanding succeeds Flora Rose, who retired as director on October 15, 1940. Mary Henry, who had been serving as acting director since Miss Rose's retirement, has resumed her duties as assistant director.

Extension Service. Home economics programs in over 50 counties reflect the many effects of the defense program and the war. The increased emphasis placed by home demonstration, 4-H club, and agricultural agents on practices involved in "better living on the farm from the farm" has resulted in more home gardens, more livestock and home-preserved garden produce, and better family and community meals. Support of the "Food for Freedom" effort is part of all extension programs.

Defense Exposition. Many organizations took part in the Civilian and National Defense Exposition in New York City during four weeks of the early fall. Home economics was featured in many ways. Two exhibits arranged at the request of the New York State Council for Defense were "Vitamins for Victory," planned by the New York State Nutrition Committee, and "Homemakers Aid Defense through Wise Food Planning," sponsored by the defense committee of the New York State College of Home Economics. A feature of the College exhibit was an interest-provoking questionnaire, "What did you eat yesterday?" This exhibit was planned originally by home demonstration agents and leaders of Rensselaer, Chemung, and Orleans counties for the New York State Fair.

NORTH CAROLINA

Woman's College, University of North Carolina. A Food Conservation Institute was held at the College from June 25 to July 1. Scheduled leaders and demonstrators included Mrs. Minnie Eldredge McTeer, Ball Brothers Company, Muncie, Indiana; Cornelia Simpson, home demonstration agent in Lee County and a food conservation specialist during the last World War; and E. V. Vestal, swine specialist of the North Carolina Extension Service.

A Rural Electrification Institute to "demonstate ways in which electricity can best serve the home, the farm, and the community during the present national crisis" was co-operatively sponsored at the College on the mornings of July 7 to 12 by the home economics department and the Rural Electrification Administration. Program speakers included Clara O. Nale, head of home electrification, R.E.A., and Marian Weinel, regional home electrification specialist, R.E.A.

Paralleling this morning institute was an afternoon one on the school lunch, presented by the home economics department of the College in co-operation with the North Carolina W.P.A. program. Blanche Tansil was the instructor in charge.

NORTH DAKOTA

North Dakota Agricultural College. Geneva Johnson, formerly of Kansas State College, is in charge of the home management house. She replaces Constance Payne, resigned.

Shirley Ann Briggs, formerly of the University of Iowa, has been appointed assistant in the art department to replace Winnifred Washburn, resigned.

Vocational Homemaking. Eva H. Larson, formerly itinerant teacher of adult homemaking in North Dakota, has been appointed assistant state supervisor of homemaking

education, replacing Ella Johnson, now on the home economics education staff at Kansas State College.

At present there are six resident and seven nonresident co-operative education and training programs for N.Y.A. project workers in the state. In the resident project for Indians at Wahpeton, the girls are being trained as household assistants, ward helpers, and waitresses.

Two short-term, related training programs were held at the University of North Dakota and North Dakota Agricultural College this past summer. Each program served fifty N.Y.A. girls and lasted eight weeks.

The 15th Annual State Conference for Vocational Homemaking Teachers was held at North Dakota Agricultural College from August 25 to 29. Louise Keller of the U. S. Office of Education assisted the group with their work in curriculum revision. Eighty teachers and thirty guests attended.

Eleven new schools have made plans to have their homemaking departments approved for vocational homemaking this year.

Extension Service. The defense angle of homemaking was stressed at all meetings held for leaders of Homemakers' Clubs by all specialists during September. The meetings were attended by 2,000 leaders in all counties in the state, and the information was taken back to 20,000 homemakers.

Esther Rugland, home demonstration agent in Cass County, has resigned to take a similar position in the Hawaiian Islands.

Special training meetings on meat production and preparation were held during September for county agents in the northwest and southwest areas. The meetings were a co-operative project of nutrition and animal-husbandry specialists.

A state conference to set up a plan for a Rural Youth Program was held at the State College from September 3 to 5. It was attended by county agents, home demonstration agents, specialists, district supervisors, and the supervisory staff. The conference was conducted on a discussion basis, and recommendations were set up on aims and objectives, program, subject matter, local organization, and methods of procedure.

Farm Security Administration. Berenice Rhines was made acting home management supervisor of District VII on September 15, with headquarters at Valley City.

Nola D. Pollock, home management supervisor at McClusky, and Mary M. Mohr, home management supervisor at Killdeer, resigned in August.

The farm and home management supervisors in North Dakota are working out a series of group meetings to high light "Food for Defense" as part of the farm and home planning of F.S.A. borrowers for the next cropping season.

OKLAHOMA

State Department of Education. Dr. Anna K. Banks, formerly head of the home economics department at Oklahoma College for Women, was appointed state supervisor of home economics education in June.

Dr. Hazel Frost, also formerly of Oklahoma College for Women, is the new assistant state supervisor.

Lela O'Toole, who had accepted a position as instructor of home economics education at the Oklahoma A. & M. College, was released from her contract so that she might become a district supervisor.

Mary Russell is now director of the Wichita, Kansas, program for community education in home and family living, one of four experimental programs being conducted in co-operation with the U. S. Office of Education.

Pauline Cunningham has resigned as district supervisor of home economics education to become head of the home economics education department at Louisiana State University.

Oklahoma A. & M. College. Foods and Nutrition for Defense is the title of the one-week refresher course being offered by the household science department under the direction of Dr. Daisy I. Purdy. Home economists will be given instruction and will in turn train leaders in their respective districts.

Dr. Gladys M. Kinsman resigned on September 1 to join the staff at the Woman's College, University of North Carolina.

Mrs. Lola H. Janis has resigned to join the institution management staff at Illinois Institute of Technology, Chicago.

New staff members include Katharine W.

Kumler as associate professor of home economics education; Clarice Watson, instructor of home economics education; Mary E. Moody, replacing Christine Newark, who is on leave; Geraldine Sydney-Smith, instructor in household arts; Williamina E. Armstrong, to replace Dr. Kinsman as professor of household science and head of the department of home economics research; and Eileen E. Elliott, instructor of household science, temporarily replacing Alma E. White, who is on leave.

Members of the staff on leave this year include Millie V. Pearson, who is working for her Ph.D. at Ohio State University; Christine Newark, who has a fellowship at Iowa State College; and Alma E. White, who will study at Teachers College, Columbia University.

Members of the staff who have returned from leave are Willie Fletcher, Ruth Musgrove, Brenda Gould, and Eva Lisk.

In the Home Economics Living Room a new floor of asphalt tile has been laid to replace the one eaten out by termites, the walls have been repainted, and new furnishings are being installed.

Dr. Daisy I. Purdy recently announced the addition of a new four-year course leading to a degree in restaurant management. The course was set up in co-operation with the Oklahoma Restaurant Association.

The School of Technical Training in Home Economics has added to its list of two-year technical courses one called Technical Home Life. It is for household employees, and special emphasis is placed on the care of children.

A desire to become members of the Home Economics Club was expressed by 125 freshman girls during the pledging meeting on October 2 in the Home Economics Living Room.

Oklahoma College for Women. Mrs. Annice Ashton Barnes, formerly of the University of Oklahoma, is the new head of the home economics department. She will direct the teacher training and work with family life classes.

Helen Chambers, who taught at the College two years ago, has returned to be in charge of the textile and clothing work.

In the food and nutrition department Marjorie Vann has replaced Helen Tulloch, who was married in June and moved to New Jersey.

Naomi Brady, formerly of Juniata College and Marymount College, is teaching food and nutrition.

A culture clinic for all college women is being sponsored by the home economics department.

University of Oklahoma. A W.P.A. Nursery School and Family Life Education Conference was held at the University from October 6 to 17.

Mrs. Helene Priester has joined the staff to succeed Mrs. Annice Barnes.

Future Homemakers of Oklahoma. Membership in this organization to date exceeds 10,000. Sixteen subdistrict rallies were scheduled throughout the state during October and November.

OREGON

Oregon Home Economics Association. May Du Bois, president, called the first meeting of officers and committee chairmen in Corvallis on September 26.

Student Clubs. Irene Read, chairman of student clubs, called together her committee in Salem on October 4. The publication of a handbook and newsletters were given special attention.

Portland. *Portland Home Economics Association.* Mrs. Elvia K. Hobson, president, presided at the first fall meeting on September 25, which included a talk on flower arrangements, illustrated with colored slides.

Portland Euthenics Club. The programs of the club's bimonthly meetings this year will emphasize "The Home," "Nutrition," "Entertaining," "The Child," and "Ourselves." Mrs. Hilbert S. Johnson is president.

Nutrition Committee for Defense. Ava B. Milam, chairman, presided at a meeting of the committee in Portland on September 16 when progress reports were made.

Vocational Education. Mrs. Lois Christian, formerly adult itinerant teacher, is now coordinator of homemaking classes for N.Y.A. youth and adult homemakers in Portland.

Farm Security Administration. County representatives are actively participating in the organization of county nutrition committees.

Extension Service. Helen Allen, former home demonstration agent in Montana, is the new agent in Clackamas County, succeeding Irene Leach, who was married on October 10.

The annual conference of extension, research,

and resident instruction personnel and the federal collaborators will be held at Oregon State College from December 9 to 12.

SOUTH CAROLINA

Farm Security Administration. The following new district supervisors have been added to the home management staff: Rose B. Hinson, Kingstree; Eva M. McGee, Walterboro; Mrs. Tee H. Owings, Greenville.

County Defense Councils. Council services include getting prices of basic commodities and keeping the public informed through the press as to trends; watching the ways price advances come—as for instance, through decrease in size and package, deceptive methods, deterioration in quality; furthering grade labeling of canned goods by urging that labels be read; organizing consumer discussion groups; giving weekly broadcasts over Radio Station WIS in Columbia to stress the above points; arranging for articles on nutrition and consumer education in the daily papers, particularly on the Sunday woman's page; studying state and municipal laws which protect, or fail to protect, the consumer and, through legislative committees of various women's organizations, trying to get action; furthering co-ordination of all organizations promoting work of the state nutrition committee, referring matters of nutrition to this committee and legislative matters to the Council for the Common Good, trying to find in the state a suitable organization to undertake each piece of important work referred to it; securing the co-operation of the extension division of all state colleges and institutions; organizing for an advisory board on consumer protection in foods leading teachers and heads of state agencies in economics, home economics, agriculture, marketing.

Consumer Interests. Mrs. Helendeen Dodderidge of the Consumers' Counsel, Washington, D. C., spent the week of September 2 in South Carolina. She spoke on "Consumers' Responsibilities and Adjustments in the Defense Program" before a group of 500 farm women at their district meeting in Orangeburg and visited county Councils for the Common Good in Pickens, Saluda, and Edgefield counties to make suggestions on consumer education. She also conferred with Mrs. Christine South Gee, member of the State Defense Council in charge of nutrition, homemaking, and consumer problems in foods, and two members of her advisory board on protection in foods; with Bessie Harper, chairman of nutrition and consumer education of the state P.T.A.; and with Mrs. Paul H. Leonard, president of the state Council for the Common Good and national chairman of the P.T.A. school-lunch program.

SOUTH DAKOTA

South Dakota State College. Mildred Walker, formerly of the Brookings High School staff, is now co-ordinating supervisor at the College. Practice-teaching centers have been set up in Volga, Madison, and Dell Rapids.

Susan Z. Wilder, nutrition specialist, took part in a panel discussion on health at the State Conference of Social Work on October 9 at Mitchell.

Farm Security Administration. Mrs. Jennie Treadwell also took part in the panel discussion on health at the State Conference of Social Work and gave a talk on "Nutrition in the Defense Program" at the state P.T.A. meeting in Aberdeen on October 14.

TENNESSEE

Conference on Nutrition and Home Food Supply Problems. Governor Prentice Cooper opened the Conference held on October 7 and 8 in Nashville and presided at the main sessions. Addresses scheduled included "Better Nutrition—a Challenge to Education" by Edna P. Amidon, U. S. Office of Education; "Food and National Defense Problems," Garrit Vander Hooning, representing Mayor LaGuardia, director of civilian defense; "Nutrition in Relation to National Selective Service," Brigadier General Lewis B. Hershey, director, National Selective Service System; "The Importance of Nutrition in Human Welfare," Dr. W. H. Sebrell, U. S. Public Health Service; "Nutrition at Home and Abroad (France)," Dr. John B. Youmans, member of the Rockefeller Health Commission to France (1941); "England's Food Needs," Dr. Paul Appleby, U. S. Department of Agriculture; "The Job Ahead," M. L. Wilson, director of the U. S. Extension Service and chairman of the National Nutrition Advisory Committee.

The following sectional meetings and chairmen were scheduled: Homemakers—Margaret Ambrose, state home demonstration agent; food production—C. C. Flanery, state commissioner of agriculture; education—B. O. Duggan, state commissioner of education; medicine and public health—Dr. W. C. Williams, state commissioner of public health; food processors and distributors—C. E. Brehm, director of the state agricultural extension service; county nutrition committee—Bernice Hopper, nutritionist of the State Department of Health.

"Mobilizing State Resources for Better Nutrition" was discussed by Dr. W. C. Williams; B. O. Duggan; D. E. Freeman, director of vocational education; C. E. Brehm; Paul Savage, commissioner of welfare; M. L. Haltom, director of the Farm Security Administration; C. C. Flanery; Bruce Overton, director of N.Y.A.; and Tate Pease, director of W.P.A.

Carson-Newman College. There is a large enrollment in the home economics department this fall and many changes have been made in the home economics curriculum.

October 4 was annual Home-Coming Day at the College. The home economics students served a picnic supper on the campus for the visiting alumni.

Lillian V. Thomson attended summer school at Iowa State College this past summer.

George Peabody College for Teachers. Mary Ellen Weathersby, formerly at Mississippi State College for Women, has joined the staff to supervise student teaching. Teaching centers at Charlotte and Gallatin were started at the beginning of the fall term.

Mrs. Virginia Muncie has joined the staff to have charge of child development and house management.

Virginia Hinton, an alumna, has charge of the Peabody Demonstration School cafeteria.

Dr. L. Margaret Johnson is a member of the state nutrition committee.

University of Tennessee. New staff members are: Bernadine Meyer, formerly of Kansas State College, associate professor of foods; Imogene Manning, formerly of Connecticut College, assistant professor of nutrition; Lyle Mamer, formerly of Simpson College, assistant professor of home management; Mrs. Alice Millett Graham, formerly of Iowa State College, instructor of foods; Marion Peterson, formerly of the University of Minnesota, instructor of child development.

An additional home management house has been purchased for the School of Home Economics. It is being remodeled during the fall quarter and will be opened January 1.

Extension Service. All of the county home demonstration agents in Tennessee are actively engaged in promoting the nutrition program sponsored by Governor Prentice Cooper. One of the main features of this program is the home food supply.

TEXAS

East Texas State College. The home economics enrollment is 10 per cent larger this year than last.

North Texas State College. The state meeting of college home economics clubs was held at the College on October 24 and 25.

Mrs. Mabel Goode Bowers has joined the textile and clothing staff.

Texas State College for Women. New staff members are Florence Langford, who will teach Home Management and Foods, and Ruby Simpson on the home economics education staff.

Texas Technological College. The home economics enrollment this semester is 446, as compared with 431 last fall.

A prenursing course has been added to the home economics curriculum with 33 students enrolled.

Two new faculty members are Bernice Borgman and Ella Mae Lyle.

University of Texas. Elizabeth Tarpley is one of eight people chosen by the General Education Board to work this year on a core curriculum for secondary schools. Helen McCullough, formerly of the University of Illinois, is substituting for her.

Mary Zimmerly, who has been teaching in the New York public schools, is the new instructor in Home Management and Foods.

Extension Service. Sadie Hatfield, extension specialist in landscape gardening, attended a writers' conference at the University of Colorado from June 21 to August 8.

VERMONT

Vermont Home Economics Association. At the fall meeting on October 10 Margery Vaughn of the Office of Defense Health and Welfare Services, Federal Security Agency, spoke on "The Nutrition Program in the Present Emergency." The nutrition program in the Vermont schools was discussed by Alida Fairbanks, state supervisor of home economics education, and Avis Pillsbury, Dorothy Chittenden, and Lydia Tarrant.

Officers this year are: president, Thelma Leach, Morrisville; vice-presidents, Vera Perkins and Elizabeth Holden; and secretary-treasurer, Elsie Tryon, Middlebury.

State Department of Education. District meetings to promote the school-lunch program have been held throughout the state for superintendents of schools, teachers, and interested representatives from local organizations. Conducting them were the state supervisor of health, the state supervisor of home economics education, the state director of surplus commodity distribution, and the W.P.A. state supervisor of the hot-lunch project.

University of Vermont. Margaret Doughty is in charge of the home management house, succeeding Doris F. Lake, who is studying at Pennsylvania State College. Mrs. Geraldine Maurer Owens has been added to the staff this year as instructor of foods. She comes from Syracuse University, where she studied last year under Dr. Nason.

A course in nutrition, sponsored by the state nutrition committee, is being given to all freshman women in connection with the hygiene course.

Extension Service. Lydia Tarrant, nutrition specialist, has accepted a similar position at Pennsylvania State College.

As a basis for planning nutrition work in the state, a survey of 1300 farm families and 1603 village families was made by the Extension Service. The W.P.A. and other agencies cooperated in order that families with low incomes as well as those with moderate incomes would be represented.

Vermont Experiment Station. After a year of study at the University of Chicago, Marianne Muse resumed her duties on July 1.

Margaret Coles, who received her M.S. from Iowa State College this past year, has succeeded Mrs. Virginia B. Olivo as assistant in home economics research.

VIRGINIA

Virginia Home Economics Association. Dr. Mildred Thurow Tate, head of both the home economics department at V.P.I. and the state nutrition committee, became president of the Association in June, when Mary B. Settle, president, left the state to become regional chief for the F.S.A. in Region III.

Alice Marshall, new treasurer of the Association, resigned in August as critic teacher at Matthew Whaley High School in Williamsburg, the teacher-training school for William and Mary College, to become director of home economics education in Roanoke.

Farmville State Teachers College. Two additions to the home economics faculty are Ruth Gleaves, teacher trainer, and Margaret Sprunt Hall, home management house director.

Madison College. This year the N.Y.A. and the home economics department are cooperating on a project in tearoom management. Dorothy Starkweather, a graduate of Cornell University with graduate training at Columbia University in institution management, is in charge. Students are to receive six months' intensive training, but no college credit.

Mrs. Georgia Shrum Brown, assistant dietitian before her marriage, has returned to the College to replace Ada Felch, who resigned as assistant dietitian to accept a position at the University of Maine.

Catherine Bauseman, an alumna who has done graduate study at the University of Chicago, is the new director of the cafeteria and supervisor of home economics in the Harrisonburg High School. She replaces Betty Davidson, who resigned to be married.

Mary Washington College. Dr. Alice L. Edwards, formerly home economist with the Agricultural Marketing Service, U. S. Department of Agriculture, is the new head of the home economics department.

Eula P. Robins is administrative dietitian and director of institution management. Associated with her are Dalia L. Ruff, in charge of food purchases; Elene C. Buhrson, in charge

of the College Shoppe; and Rose Derrow, supervisor of food service in the dining halls.

Radford State Teachers College. Mrs. Emily Garner and Ruth Williams, both formerly on the University of Tennessee staff, are new faculty members at the College.

Radford's program is based on the problem approach to professional education in home economics and is intended to integrate all home economics courses on the college level.

The 500 or so homes that have been built for defense workers in the Radford area are forming the basis for the housing equipment and home demonstration work at the College this year. Students are co-operating in community programs that are planned to promote the social and economic adjustment of these newcomers to the community.

Farm Security Administration. Vivian Waters, formerly of the regional office at Raleigh, N. C., is the new associate director in Virginia with headquarters at Richmond.

Five additional district home management supervisors were scheduled to be added to the staff in November: Lucy Thomas of Chatham, Joe M. Angle of Rocky Mount, Dorothy Parker of Surry, Nina H. Salmons of Pearisburg, and Edith E. Shelor of Bland.

Richmond. Sally Kurka of Roanoke is now nutritionist for the State Health Department with headquarters at Richmond.

Emily Bennett, formerly nutritionist with the Red Cross in Chesterfield County, is now director of the Dairy Council of Richmond.

Nutrition Classes. Members of the Richmond Home Economics Association have been conducting nutrition classes for city homemakers who register for them through the Volunteer Service Bureau. Those who teach the homemakers previously take a 10-lesson nutrition refresher course, the outline for which was prepared by Janet Cameron, nutritionist at V.P.I. A charge of 50 cents per person is made. At the end of the course the homemakers receive a certificate from the Volunteer Service Bureau. After each demonstration the women are given mimeographed lesson sheets and literature from commercial and government organizations. About 130 women were enrolled in the fall's first four courses.

WASHINGTON

Washington Home Economics Association. Both sections of the Association have financed circulation of the "Outline for Nutrition Teaching in the Schools," prepared by the Association's committee on nutrition teaching in health education, and "Nutrition Notes," prepared by the state defense nutrition committee.

Washington Education Association. The regional meeting on October 13 included a visit to the Yesler Housing Project.

State College of Washington. Lucile Dauner, formerly of Whittier College, is head of the department of textiles. Her teaching-fellow assistants are Helen Thackeray and Ailine Hanson.

In the departments of foods and clothing Betty Collins and Roberta Cunningham have teaching-fellow appointments.

Dr. Josephine M. Smith, formerly research associate at the University of California Institute of Child Welfare, is the new assistant professor of child development. Her teaching-fellow assistant is Helen Marshall.

Arlean Pattison, formerly of Iowa State College, is the new instructor of home management and household equipment.

Dr. Jennie McIntosh, nutrition chemist last year, has taken over the work of Mildred Boggs, on leave. The new nutrition chemist is Virginia Landquist of Oregon State College. Emmie Ducie is the research fellow assisting.

Jane Currie is manager of the College Coffee Shop; Ruth Tanner and Joyce Dockstader are graduate assistants in the dormitories.

New hotel administration courses planned for this year are Hotel Administration Problems and a hotel survey course in which prominent hotel men and specialists in the various fields will participate. Warren Wells Fisk will teach both. During the spring vacation hotel administration students will visit a number of hotels in the Northwest.

University of Washington. Dr. Marion Fish was married in August to Professor William E. Cox of the College of Economics and Business Administration.

Fifty members of the Euthenics Club (home economics graduates who are married) and 14 dietitian interns are enrolled in a refresher

course in nutrition given under the auspices of the committee on nutrition for national defense. Dr. Jennie I. Rowntree, the director, gives six lectures; Martha Dresslar and Dorothy Tilden, one each. Class members have agreed to conduct study classes for lay groups. A similar course is being offered to 65 home economics teachers-in-service.

Home economics seniors are acting as nutrition supervisors for campfire groups serving dinners at 25 cents per plate.

New staff members include Laura E. McAdams, as itinerant teacher-trainer and supervisor of practice teaching; Charlotte Black, resident instructor for the home management house now being completed; and Dr. Clara Storvick, assistant professor of nutrition.

New members of the institutional staff to assist Margaret Terrell are Margaret O. Brown, supervisor of the University Commons, and Margaret Richert, house director of the University residences and dining halls.

The twenty-first recipient of the Bon Marché fellowship is Clare Rundle, recently on the staff of Coe College.

Miss Denny's home furnishing class at summer school co-operated with the Seattle Housing Authority in furnishing a 4½-room demonstration apartment in Yesler Terrace, the first low-cost housing project in Seattle. A committee of six procured used furniture, which was refinished in N.Y.A. workrooms, and made slip covers and curtains. The apartment was completely furnished for $125 (government grant) to show prospective tenants how to refinish their old furniture cheaply. The University Library School lent books for the living room, and the N.Y.A. Toy Lending Shop sent toys for the children's room. Ten thousand visitors saw this apartment in August and September.

State Department of Home Economics. Ruth Redmond of Snohomish has been added to the staff for part-time N.Y.A. education and part-time supervisory work.

Seattle Public Schools. Work has been started on the new co-operative nursery school project at Broadway High School. The P.T.A. is providing the food, and the W.P.A. is co-operating in providing instructors and workers for the project. Home economics students are to observe and participate in the work and the center is to be used for demonstration purposes for the entire city.

The medical department and the department of home economics are co-operating on a newly organized high school unit in home nursing based on Education and National Defense Series Pamphlet No. 9, "Home Nursing Courses in High Schools," of the U. S. Office of Education. Teachers of Home Living and Home Management are working with the school nurse in each high school.

The Family Life Program, sponsored by the Seattle Public Schools in co-operation with the State Board for Vocational Education, is in its third year. It is in charge of Dr. Katharine Whiteside Taylor.

Dr. Jennie I. Rowntree of the University of Washington is conducting a nutrition refresher course as part of the nutrition and defense program, with all Seattle teachers of foods and nutrition enrolled.

Spokane Public Schools. A nursery school has been established at the Lewis and Clark High School. Founded by the state nursery director, Mrs. Louise Kiskadden, and the local director, Emmett Lancaster, it will serve as a laboratory for classes in family relationships, child development, and foods and clothing. Twenty-two children are enrolled.

WISCONSIN

Milwaukee-Downer College. Susan F. West is chairman of the professional education section of the Wisconsin Dietetic Association.

Louise Sobye was a member of the Workshop in Human Growth and Education at the University of Chicago this past summer, and Dorothy Anderson attended the University of Wisconsin summer session.

Positions held by recent graduates include those of assistant in the Nursery School at the Merrill-Palmer School, Army hospital dietitian, and supervisor of restaurant food service.

Mount Mary College. Sister Lothaire, Sister Mary Arthur, and Mary G. O'Brien attended the summer quarter at Iowa State College.

Ruth Stenz and Joehana Smith, who completed their dietetic internships at the Walter

Reed and Henry Ford hospitals respectively, have been retained as staff members at both hospitals.

Sister Mary Albert discussed "Vitamins" on October 8 and 22 as part of the refresher course in home economics sponsored by the Milwaukee homemakers' group.

University of Wisconsin. The Dorothy Roberts Nursery School, which opened on October 20 in the renovated house known for many years as the Practice Cottage, now has larger quarters and a larger number of children enrolled. Previously the enrollment has been limited to 5 boys and 5 girls between the ages of 2 and 4 but this fall there are 8 boys and 8 girls. The school will be in charge of Dr. Helen Dawe, and Frances Roberts will supervise the nutrition students who are responsible for the children's noonday meal.

New staff members in home economics include Helen Waite, in charge of the home management house; Martha McAfee, instructor in related art; Jean Henkel, assistant in clothing and textiles; Mildred Siek, research assistant, working with Dr. May Cowles; and Carol Keating, assistant in animal research, working with Dr. Helen Parsons.

Extension Service. Mary Brady, Mrs. Charlotte Buslaff, and Gladys Stillman, extension nutritionists, held a series of five district refresher courses in nutrition with county home agents following the National Nutrition Conference, which Miss Brady attended in Washington, D. C., in May. The importance of producing and storing the family food supply was emphasized also at the five Experiment Station Field Days held during July. Extension nutritionists and home agents are emphasizing the school-lunch project.

Violet Schoeppel and Dorothy Lloyd have recently been appointed home agents-at-large.

Mrs. Elsa Bate, formerly of Utah Agricultural College, has been appointed extension specialist in child development and family relationships to replace Mrs. Blanche Hedrick Rafferty, who recently resigned to become a homemaker at Canton, Illinois.

WYOMING

State Department of Education. Susan L. Burson and Mrs. Leonora Zimmerman of the U. S. Office of Education served as leaders at the annual State Home Economics Conference at the University of Wyoming from August 18 to 22. Special consideration was given to problems arising from national defense efforts, nutrition needs and teaching procedures, and related training for N.Y.A. employed youth.

Training as nurses' aides and clerical workers is being organized for N.Y.A. employed young women to help meet the needs of hospitals and offices for more workers.

University of Wyoming. Additions to the home economics staff this year are Evelyn Erwin, who will teach home management and foods, and Frances Obst, who will teach clothing, textiles, and home architecture.

The home economics division has been enlarged by the addition of two new clothing and textile laboratories, and new equipment has been added to the foods and clothing laboratories. Registration in this division has increased 25 per cent over last year.

Elizabeth J. McKittrick, chairman of the state nutrition committee, represented Wyoming at a regional meeting on nutrition in Denver on October 1.

Extension Service. Avis Campbell has been appointed home demonstration agent at Torrington to replace Christine Nesbitt, who resigned to be married.

A "Food for Freedom" campaign was held from October 8 to 14 as part of the State Farm Defense Program to increase production. Teams composed of members of various organizations covered the state in four days.

Farm Security Administration. Through the efforts of the farm and home management supervisors in Weston, Niobrara, Platte, Converse, and Lincoln counties, group medical services have been organized to provide better medical care for F.S.A. families. By paying in advance the minimum annual fee, participating families have care when it is needed. The fee covers emergency and regular practitioner care.

To meet Wyoming's "Food for Freedom" goals F.S.A. families will increase their milk and egg production through culling and better housing and feeding practices. They will increase the production of garden vegetables by improved moisture-conservation practices.

OUR CONTRIBUTORS

Harriet Elliott, associate administrator in the Office of Price Administration, is in charge of its Consumer Division.

Mary I. Barber has been on leave from her position as director of the home economics department at the Kellogg Company, Battle Creek, Michigan, since January 1941 to serve in Washington, D. C., as food consultant for the Quartermaster Corps to assist with menus for the U. S. Army. Last June her title was changed to expert food consultant to the Secretary of War. A former vice-president of the American Home Economics Association, she was president of the American Dietetic Association in 1940–41.

Arnold E. Baragar is the assistant home economist directing household equipment research at the University of Nebraska. He received both his A.B. and M.S. degrees from the University of Michigan, where he majored in physics. He has done further advanced work at Iowa State College.

Leila Doman received her Ph.D. at Cornell in 1935, taught a year at Kansas State College, and then accepted her present position at the University of California at Los Angeles as instructor in home economics.

Ella M. Johnson is assistant professor of home economics education at Kansas State College.

Mrs. Helen Klaas Engdahl, a Columbus (Ohio) homemaker, received the M.S. degree from the University of Chicago in 1933, then served as nutritionist for the Illinois Emergency Relief Commission, and from 1935 to 1941 did research in foods in the department of home economics at the University of Illinois.

Lenore Richards, with her partner, Nola Treat, has for 17 years owned and operated the Richards Treat Cafeteria in the Loop in Minneapolis. Earlier they together organized the institution management department at the University of Minnesota and for six years operated the cafeteria and dining hall at University Farm.

Dr. Margaret Wylie is chairman of the division of the family and its relationships in the American Home Economics Association, and **Mrs. Ethel B. Waring** is chairman of the Association's department of child development and parent education. Both are on the staff of the New York State College of Home Economics at Cornell University.

Dorothy Kellar is assistant state supervisor of home economics in Illinois and itinerant teacher trainer for Southern Illinois Normal University. She formerly taught at Lanphier High School in Springfield, Illinois.

Rosalind Lifquist Simon has been on the staff of the foods and nutrition department of Iowa State College since 1937, first as instructor and since 1940 as assistant professor. **Dr. P. Mabel Nelson** is head of the foods and nutrition department at the College.

Dr. Freda Gerwin Winning, a former president of the Department of Home Economics of the National Education Association, is now a teacher of home economics at the Christopher Columbus High School in New York City.

Dr. Hazel E. Munsell, in charge of the nutrition studies section in the U. S. Bureau of Home Economics from 1924 to 1937, has been on an assignment from the Bureau since the spring of 1938 for work at Columbia University with Dr. H. C. Sherman on determinations of the riboflavin content of foods. Since 1920 Dr. Munsell's major scientific interest has been the vitamin content of foods.

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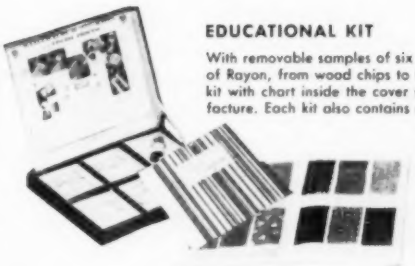

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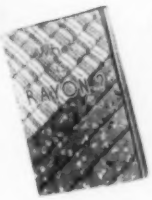

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These Tasty, Festive COOKIES Make Welcome Gifts

WITH the widespread interest in sending edible gifts to the boys in uniform, and with Christmas just around the corner, the preparation of tasty, festive cookies can be the nucleus of a class "project" of unusual interest to your cookery students. Gay holiday wrappings—and a little ingenuity—will transform empty Crisco cans into attractive practical gift containers for the tasty cookies for which recipes are given below. Unique and effective decorative effects can be achieved by writing appropriate messages on the cans with fingernail polish.

BASIC COOKIE RECIPE

½ cup Crisco
1 cup sugar
1 egg or 2 yolks
1 teaspoon vanilla
2 cups flour
2 teaspoons baking powder
½ teaspoon salt
⅓ cup milk

Blend together Crisco, sugar, egg and vanilla. Sift flour with baking powder and salt, and add alternately with milk.

DAISIES

Divide dough into two parts. To one add 1 square melted chocolate. Roll out each part separately on a floured board. Cut white with large fluted cookie cutter, chocolate with medium round cutter. Bake separately in a moderately hot oven (375°F.). Put together with a paste made of confectioners sugar and water. Garnish with toasted almonds, fastened in place with sugar paste.

DATE FILLED COOKIES

Use basic recipe. Cut with round cutter. Remove center of top halves with small star cutter or ordinary doughnut cutter. Put together before baking with date filling made by cooking 1 cup chopped dates with ¼ cup sugar and ¼ cup water. Fasten edges well and bake in a moderately hot oven.

PEANUT BUTTER COOKIES

Use basic recipe, adding ½ cup peanut butter and replacing half of white sugar with brown. Form dough into balls the size of a walnut. Place 2 inches apart on cookie sheet and press with a fork to form a cross. Bake in a moderately hot oven (375°F.).

PROCTER & GAMBLE

HOME ECONOMICS DEPT. **IVORYDALE, OHIO**

Cheese . . . in the DEFENSE DIET

More and more people are beginning to realize the important part nutrition plays in the welfare of America.

. . . It is high in the list of foods contributing notably to the building of the nation's health

NEVER before in the history of this country has food . . . the right food . . . been considered of such vital importance. Never have home economists been given such a challenge.

The wives of workers in defense plants must know what foods to put into the dinner pail, what foods to serve at home meals so that men can work at maximum efficiency.

The ordinary citizen must be instructed about the "protective" foods that can help so much to stabilize an individual and help bring buoyant health. Our young Americans, too, must be building a strong physical foundation.

As never before your advice is needed; as never before it will be needed. For more and more people are beginning to realize the important part nutrition plays in our national health and security.

Among the foods which you will stress is the dairy group, naturally. And, because cheese is so important in this group, we give you here some detailed information which you may find helpful in your work of spreading information about the "protective" foods.

Cheese . . . an ancient food

Hundreds of years before the birth of Christ men discovered a way of concentrating many nutrients of milk so that this fine nourishment could be carried along on campaigns and travels. Cheese was known to the ancient Greeks and Romans as a food that sustained men well.

Yet it is only in more recent times that men have known why. And it is only within the past twenty years or so that the exceptional food value of cheese has really been appreciated in this country. The layman is often

Nutritional authorities are organizing supplies, spreading information about "protective foods" to wives of workers who must keep up to maximum efficiency in defense plants.

(In writing to advertisers, please mention the journal—it helps.)

Men and women alike are coming to want more information about choosing wisely the "protective" foods that help lay a foundation for buoyant health.

surprised to learn that it takes more than a gallon of milk to make a single pound of cheese . . . that cheese is a concentrated source of primary milk nutrients.

A rich source of high-quality protein

Most cheeses contain between 20% and 25% protein . . . the high-quality protein of milk. Thus, a main dish which gives from two to four ounces of cheese per person supplies protein equivalent to that of practically any other food commonly used for a main dish.

Many a housewife never dreams that cheese is such a rich source of this nutrient that helps to build strong muscles and keep body tissues in repair.

"Body fuel" and minerals from milk

Most varieties of cheese are from 25% to 35% milk fat, which means, of course, that cheese is a fine energy food. One ounce of most cheeses supplies about 100 calories.

Another striking contribution which most cheeses make to the diet is minerals . . . milk calcium and milk phosphorus. These two vital food elements are believed to be commonly deficient in the ordinary American dietary. Yet just 6 ounces of American cheddar supply approximately 1 gram of calcium and ¾ gram of phosphorus, which is the amount contained in a whole quart of milk.

Vitamins A . . . and G (riboflavin), too

Ordinary American cheese is an excellent food source of vitamin A by virtue of its milk fat content. An ounce portion of most cheeses supplies approximately 300 U.S.P. units of this vitamin which is regarded as a dietary essential.

Recent biological assays show that the cheese food, Velveeta (made by processing cheddar cheese with the addition of whey concentrate, skim milk solids, cream, sodium phosphate and salt) is an excellent food source of vitamin G as well as vitamin A. One hundred grams of Velveeta supply about 500 Bourquin-Sherman units of vitamin G. In other words, one and one-third ounces of this cheese food, which is about the right amount for a sandwich, supply approximately 180 vitamin G units.

Cheese is versatile

Count up the important nutritional contributions of cheese; add to that the appeal of its various flavors; add to that its wide, year-round availability at reasonable cost and the number of ways it can be served—yes, cheese rates its honored place among the vital foods.

Now, as our nation's defense program moves ahead, students and teachers of home economics become leaders in a special kind of patriotic service: the spreading of information about cheese . . . about *all* of the "protective" foods. This is a service of intense value; it can help build strong Americans not just for this crisis, but also for a happier, more healthful tomorrow.

EDUCATIONAL DEPARTMENT
KRAFT CHEESE COMPANY

Cheese sandwiches go into America's dinner pails and school lunch boxes to supply not only "good eating" but also milk protein, milk calcium, milk phosphorus and vitamin A.

Magic Chef Heavy Duty Gas Cooking equipment saves fuel, food and time in school-cafeteria kitchens of every size.

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IT MAY be next week or next year. But when your school *does* decide to buy some new cooking equipment for its domestic science laboratories, it will pay to buy the best available.

The effect of national defense on the availability of civilian goods is going to be felt more and more as time goes on. Of course, there's no point in buying things *now* unless you need them *now*. But when you do buy, it's wise to get the best . . . the kind that will last. That's why your school will find Magic Chef gas ranges a sound investment.

The new dual-unit Magic Chef illustrated above is the latest in cooking equipment . . . compact . . . complete . . . sturdy . . . space-saving . . . efficient . . . modern throughout. Let this Magic Chef gas range help make your cooking instruction easier! And if you're buying cooking equipment for school lunchrooms or cafeterias, remember that Magic Chef Heavy Duty Gas Cooking equipment is built to stand up under the most intensive use.

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From one half to a level teaspoonful of Vegex to a cup of hot water or the water in which vegetables were cooked. Try adding a dash of lemon to Vegex bouillon and thoroughly chill.

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Dissolve from one-half to a level teaspoonful of Vegex in a little warm water and add to a glass of chilled tomato juice.

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Cream together 1 part of Vegex with 10 to 12 parts of butter for sandwiches, toast, baked potato, macaroni and vegetable dishes.

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If you could live with a field of Dole pineapples—watch the growing plants—see the harvest—then follow the fruit through the canning process—you would be constantly aware of the collaboration of field and canning experts with laboratory technicians.

The pictures below show how ears, eyes and instruments play their part in the Dole fields and cannery. It is this proficient checking and rechecking that gives you the utmost in quality in Dole Pineapple Products—Juice, Sliced, Crushed, Tidbits, "Gems" and "Royal Spears."

By tapping samples of harvested pineapples, the keen ears of the supervisor check on the expert pickers to confirm the ripeness of the fruit.

Another sound test. A tap on each can with a bead on spring steel assures this expert of the perfection of the Dole vacuum-pack.

Dole maintains a research staff devoted to the development of agricultural knowledge, perfection of Dole canning processes, and chemical and nutritional studies of the pineapple.

Following canning, random cans of each Dole product are opened daily and carefully scrutinized to insure the maintenance of Dole high quality standards.

DOLE Hawaiian Pineapple Products

FROM HAWAII U.S.A.

SLICED CRUSHED JUICE TIDBITS "GEMS" "ROYAL SPEARS"

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HOUSEHOLD'S NEW BOOK ON MONEY MANAGEMENT

Sample copy sent free

HERE is a new booklet with a very timely message. Most families now face the necessity of making new and frequent adjustment of outgo to income. "Money Management Principles" tells how to go about making these adjustments.

A new approach

Into this new booklet have gone the results of our thinking and of our experience with budgeting problems of families over the last ten years. Unlike so many books on budgeting this one recommends no fixed percentages, gives no rigid pattern of spending for the reader to follow. How the income is to be spent should be worked out to meet the special needs of the individual family. And if the spending plan is made by and for the whole family it has a real chance to succeed.

Have the whole family take part

That, briefly, is the thinking behind the new "Money Management Principles." The booklet urges that the business side of home making be organized around the interests of the entire family and gives many practical suggestions for doing it. Important chapters discuss "How do we start to plan?," "Consider family objectives," "The family conference," "How shall we pay?" and, because many families think that *their* circumstances are special ones, there's a chapter for them "But what if . . . ?"

To introduce "Money Management Principles" we'd like to send you a free copy. We believe that you will want to bring it to the attention of your senior students and recommend it to families who are having trouble keeping their expenses within their incomes. Won't you please use the convenient coupon?

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Please send me a free copy of "Money Management Principles." (Offer good only until Dec. 31, 1941.)

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Pattern Lesson WITH CANNED PINEAPPLE { FOR FOOD CLASSES HOLIDAY CANDY

PINEAPPLE HOLIDAY CANDY*

(makes 64 pieces; 1 inch square)

1 cup Crushed Pineapple (1 No. 2 or 20-ounce can)
2 tablespoons unflavored gelatin
½ cup cold water
¾ cup boiling water
2 cups sugar
¼ teaspoon salt
½ teaspoon lemon extract

METHOD

1. Drain Crushed Pineapple thoroughly.
2. Sprinkle unflavored gelatin over the cold water and let stand.
3. Meanwhile heat water to boiling point, add sugar and salt, and stir thoroughly.
4. Add softened gelatin and stir until dissolved.
5. Boil gently for 15 minutes.
6. Remove from heat, add lemon extract and the well-drained Pineapple. Blend well.
7. Brush shallow 8-inch square pan with salad oil, then pour in candy.
8. Allow to stand over night in cool place (not the refrigerator).
9. When ready to cut, loosen candy from edges of pan with a sharp knife (moistened).
10. Turn out on sugared board or wax paper and cut into 1-inch squares.
11. Coat individual squares with sugar.

PRINCIPLES OF COOKING

1. Crushed Pineapple must be drained thoroughly before it is added to the gelatin mixture.
2. This procedure softens the gelatin. Unflavored gelatin should always be soaked about 5 minutes before using.
3. Sugar and salt dissolve more readily in water heated to the boiling point.
4. Unflavored gelatin will dissolve only in boiling water, hence mixture must be at this temperature when gelatin is added.
5. Please observe direction to boil gently. A low heat only should be used for this process.
6. Extracts lose some of their potency if added to mixtures during the boiling process.
7. Salad oil remains liquid at room temperature and hence expedites the ease with which the candy may be removed from the pan.
8. Room temperature is best for this procedure.
9. Manipulation of gelatin-made candies is simplified by using a knife which has been moistened in water.
10. Gelatin candies are easier to handle and more delicious to eat when sugar coated.
11. See above explanation.

**To decorate Divinity as shown, press a Pineapple Tidbit into each square before hardening.*

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An average serving of Maltex contains 23 grams of Carbohydrate, 5 grams Protein and appreciable amounts of Calcium, Phosphorous, Copper and Iron. Also, Maltex is a *good natural* source of Vitamin B_1—each ounce, dry, contains 50 U.S.P. units.

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N. C. Lueders, B. S. Home Economics, 1936, Univ. of Maine.

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* *"Your Children's Food and the Family Pocketbook," Folder 24, 1940. "Your Young Child's Health," Folder 21, 1940.*

2. How NUCOA compares in fuel value with butter?

J. Bromell, B. S. Home Economics, 1933, Univ. of New Mexico.

Both butter and margarine are required by federal law to be at least 80% fat. NUCOA, made with pure vegetable oils churned in fresh pasteurized skim milk, contains—besides 16% skim milk moisture, 1¼% milk solids not fat, 2½% salt—80% fat. NUCOA and butter, therefore, furnish the same amount of food-energy—3,300 calories per pound. And they are equally digestible (over 96%—see *Holmes and Deuel: Am. Jrl. Physiol., vol. 54, p. 479*).

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Elsie Stark, Dir. of Home Economics, The Best Foods, Inc.

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J. R. Posey, B. S. Home Economics, 1930, N.Y.U.; M.A. Household Arts, Columbia Univ.; Dietetic Certificate, Pratt Institute.

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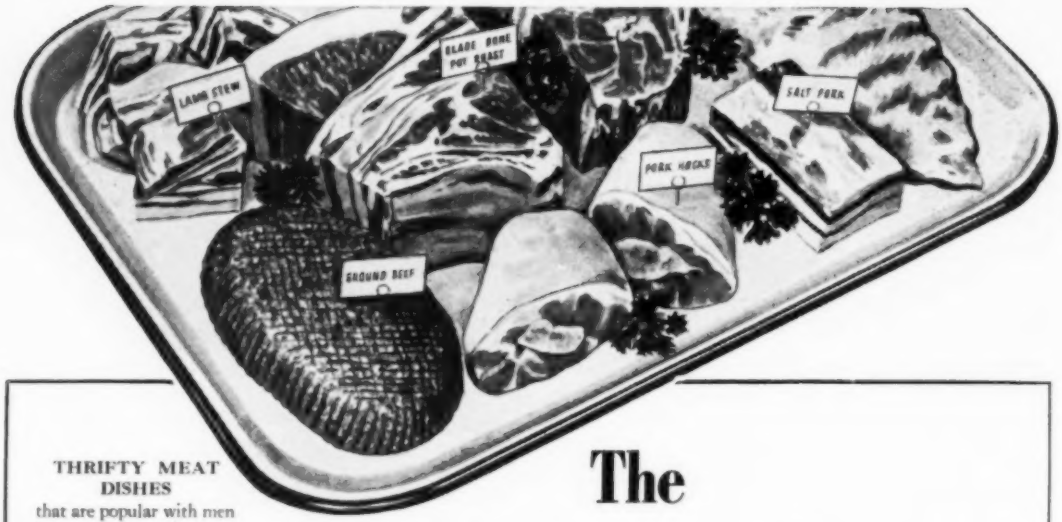

THRIFTY MEAT DISHES
that are popular with men in restaurants, but are not served as frequently as they might be at home.

Savory meat stew
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Irish stew with dumplings
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Swedish meat balls
Spareribs and sauerkraut
Braised oxtails
Braised lamb shanks

The Thriftier Cuts of Meat

and their nutritional value

In the government's health-for-defense program, meat is being urged, along with milk, bread, cereals, fruits and vegetables, as part of the better balanced meal.

Leaders in nutritional education have the responsibility of showing how the benefits of meat may be obtained most economically. A large percentage of the women who are planning home meals know only a few of the cuts of meat—a dozen or less—and these cuts are usually the familiar roasts, steaks and chops.

Yet the government's "model menu" makes a special point of the fact that the thriftier cuts of meat are just as nutritious as the more familiar ones.

They have the same B vitamins—thiamine (vitamin B_1), riboflavin (vitamin G or B_2) and the anti-pellagra vitamin.

They have the same complete proteins containing all ten of the essential amino acids, the "building blocks" of the body.

They have the same minerals (iron, copper, phosphorus).

(None of these essentials—B vitamins, proteins, minerals—is stored in the body to any appreciable extent—they must be supplied daily in the foods we eat.)

They are all 96 to 98% digestible.

Because of their high nutritional value the thriftier cuts of meat become a timely subject for the class in nutrition. A better knowledge of these cuts on the part of students—how to buy them and how to prepare them—will enable meat to take its place more often in the balanced family meals.

As an aid to teachers, as well as homemakers, we have prepared a buying guide covering more than 80 of these thrifty meat cuts.

AMERICAN MEAT INSTITUTE
Chicago

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For Classroom Use—A 48-page purse-size handbook of thriftier cuts of meat—what to ask for, how to prepare them. A buying and cooking guide to more than 80 thrifty cuts. Just send 5 cents in coin to AMERICAN MEAT INSTITUTE, 59 East Van Buren Street, Chicago.

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They're almost ready—

The recipes for a grand new, brand-new booklet we've gotten up for you. It's called, "80 Tested Canned Food Recipes," and its 48 brightly illustrated pages are bubbling over with new and interesting ways to prepare canned foods!

There are canned food recipes for every course—entrees, salads, desserts!

There's a section on how to serve balanced meals. With an example of the perfect diet for a day.

"80 Tasted Food Recipes" is *free*. It will be ready for you early in January. So get your order in now and we'll send you one of the first copies that come off the press.

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